



*Gone with
the
Shining Things*

Vivien Horler

GONE WITH THE SHINING THINGS

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A dissertation submitted in fulfilment of the requirements for the award of the degree of
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Supervisor: Dr Hedley Twidle

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ABSTRACT

GONE WITH THE SHINING THINGS

Vivien Horler

The lure of gold in the great reefs of Johannesburg near the end of the 19th century not only attracted the famous mining barons such as Cecil John Rhodes, Alfred Beit and Barney Barnato: working men also came from far and wide to feed their families with their labour. Among them was my great-grandfather, the miner from the Isle of Man, William Cogeen.

He arrived via the tin mines of Cornwall and the silver mines of Colorado, and was among those Uitlanders who flocked in those early days to the Transvaal as skilled artisans – wheelwrights, farriers, bricklayers and, especially, experienced hard-rock miners. It was their labour, as well as of black tribesmen from all over southern Africa, that laid the financial foundation for what became the rich city of Johannesburg. It was also their influx that was the excuse that precipitated the Anglo-Boer War.

His wife and daughters joined him in what was still a rough boom town, and they stayed on, until forced to flee as refugees from Johannesburg at the start of the war in 1899.

Intrigued by the stories my mother and grandmother told me as a child, I began to research my family's history and travelled to the Isle of Man, Cornwall and Colorado to trace their origins – and my own. This is the remarkable story of what happened to an ordinary working-class family who lived in extraordinary times, and my journey in their footsteps.

DEDICATION

For William and Martha Cogeen,
Their daughter Ethel and granddaughters Thelma and Thora,
Who first told me their stories

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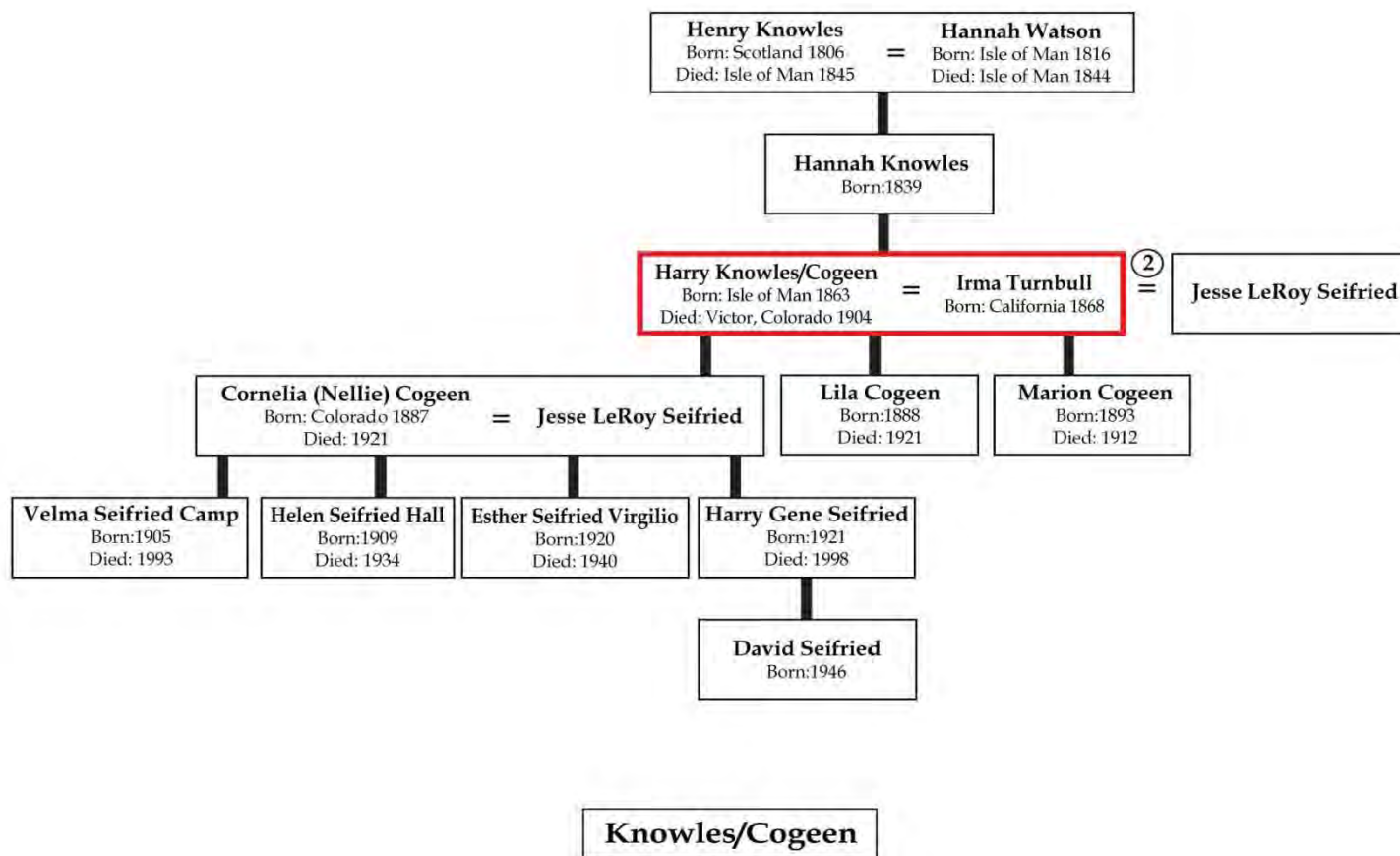
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Photographs



Martha Jennings, photographed before her departure for America, 1883



William Cogen, photographed in Leadville, Colorado, around 1883



Ethel, William, Katie and Martha Cogen, photographed in Penzance before William's departure for Johannesburg, about 1890.



William Cogein in Johannesburg around 1895



Martha Cogeon in later years



CANON CITY
New Bros
COLORADO

The American Cogeens in Canon City, Colorado, around 1900: Harry, Marion, Nellie, Irma and Lila



Thomas and Katie Hope's wedding day, Johannesburg, around 1910. They are flanked by Ethel Cogeon and Jimmy Bawden



Sisters Katie Hope and Ethel Bawden in Alberton, Johannesburg, on Ethel's 80th birthday, 1966



Thelma, Thora and Ethel, with Vivien in front, in Johannesburg, December 1953



Vivien Horler outside the old farm house at Ballig, Isle of Man, 2010

Picture: Sarah Davey



The mudsill house in East Sixth Street, second Leadville home of William, Martha, Katie and Ethel, photographed in 2011. The front portion is the original building.



Travelling companions Sarah Davey and Vivien Horler in Aspen, Colorado, November 2011



Vivien, Thomas and Thora Horler at Thomas's graduation, University of Cape Town, 2012

NOTE ON TERMS

Terms that are deeply offensive today, such as “kaffir” and “nigger”, as well as “native” and “boy” and “girl” to describe grown black people, were freely used in South Africa a century ago and I have retained these uses when quoting from old sources and documents.

The Manx surname Cogeen is pronounced kuh-JEAN, with the same stress as “unseen”. The former name for the lung condition silicosis is phthisis, pronounced “tie-sis”, to rhyme with “crisis”.

The currency in England and South Africa in the period described was pounds, shillings and pence. There were 20 shillings to the pound, and 12 pennies to the shilling. Half a crown was two shillings and sixpence and often written 2/6. A guinea was 21 shillings, and a sovereign was a solid gold £1 coin. In South Africa a tickey was three pennies.

Imperial measures were used. There are 12 inches to the foot, three feet to the yard, which is just under a metre. A mile is 1.6 km. There are 16 ounces (oz) to the pound, and 2.2 pounds to the kilogram. There are just over 28 grams to the ounce. In quotations I have stayed faithful to the measurements as they are given.

William Cogeen’s brother’s name was Henry; the American family always knew him as Harry, and I have used that name to avoid confusing him with his grandfather, also Henry.

FOREWORD – THE ALCHEMIST

I became curious about my great-grandparents when I realised that a decision they took well over a century ago affects my life today.

He was a miner and she a servant, but unlike so many of their peers they were curious, restless and prepared to travel to new worlds for what they wanted; in his case a job, and in her case a husband, children and a home of her own.

They were both British, although from widely separate parts of Britain; and as a married couple they lived in Colorado, Cornwall and Johannesburg. As I researched their story, I discovered how their lives had been shaped by the great themes of the 19th and 20th centuries – leaving the land, industrialisation, emigration, war, refugees, sudden death, disease, racism.

My great-grandfather was not a miner by choice. His father was a farmer and he had been born on a farm; but by the time he was old enough to work they had lost their land. The only other work available was down the mine, a lead mine.

The trajectory of his career has echoes of ancient alchemy; from mining the base metals of lead and tin, he went on to work the noble metals of silver and gold; not that they did him much good.

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There have always been miners in the British Isles. The islands were rich with tin, lead, copper, coal, iron and china clay, and there were also deposits of gold and silver. Britain's riches attracted the Romans.

As Britain industrialised, the mines became major industries employing many thousands of people. But in the 18th century payable deposits of tin, lead and copper were found in the New World and the Far East, and despite their distance from the industrial cities of Europe, it became cheaper to exploit those sources. As a result Britain's mining industry went through cycles of boom and bust. It was an unforgiving time with no safety nets for out-of-work miners. If your mine closed, you packed up and went where mines were open. Sometimes the miners left their families behind, and once they had made some money, enough, say, to buy a parcel of land to live on, they went back home. In other cases they left for good, sending for their families to join them when they had saved the price of their passages. Young single men a long way from home often married local girls, becoming

citizens of a foreign country. British miners left in their hundreds of thousands for America, Canada, South Africa, and Australia, and few returned.

Two of my great-grandfathers were miners, the lead miner from the Isle of Man, and a tin miner from Cornwall. Thankfully for us, they were the last of our family to go underground.

The tin miner, James Bawden, came from a long line of miners. He went to America for a time with his son William, but unlike many others they did not stay. Family lore is that they returned to Cornwall in some haste after young William made an American girl pregnant. Back home James, who became a mine captain, lived to be 90 in his own house at Whitecross near St Ives, where he was known to all as Cap'n Bawden.

While Cap'n Bawden came home from foreign parts, six of his nine children emigrated; four of the girls to the United States where they married Cornish miners. James was determined that neither of his boys would go underground, and both were apprenticed as builders and contractors. William Bawden emigrated again in the 1890s, but this time to Johannesburg where he, his younger brother, also James, and their brother-in-law started a building company called Bawden Brothers.

People were Cornwall's biggest export, and a single generation of our Bawden family accounted for six of the 170 000 adults who left the county in the second half of the 19th century.

The lead miner from the Isle of Man was William Cogein. His family were small farmers from the Baldrine area north of Douglas, and the British census of 1851 says his father, Thomas, farmed 35 acres at Ballig. But 10 years later Thomas at 59 was described as a labourer living in the lead-mining town of Laxey. At 19 his youngest son William was a lead miner.

I'd always thought that in Victorian times working class people in rural England tended to stay where they had been born, possibly venturing as far as the next village to find a spouse. But in fact the 19th century saw a vast wave of ordinary working class people moving around the world seeking a future.

Among them were William Cogein, and his wife Martha Jennings, herself the daughter of a Cornish tin miner. The fact that they met at all was unlikely. The fact that they were married in a tiny town in the Colorado Rockies is even more so. And the fact that they decided around 1890 to come to Johannesburg is part of the reason why our family is South African today.

William and Martha's younger daughter was my granny, and she told me some of the family stories. I listened, but idly. By the time I was really interested, she had died. So I decided to go in search of them.

My forebears were not the sort of people who wrote diaries and kept letters. They were literate, but not literary; Martha's signature on William's 1911 death certificate looks like the writing of a nine-year-old. I have had no cache of family papers to go on – just the family stories passed down by my granny, my mother and my aunt, and my own research.

Everyone has a story or two, and while not everyone wants to tell them, they are there, waiting to be uncovered. In the past, recorded history was made by the elite, the educated, the writers and the conquerors. But more and more today we recognise the stories of the ordinary people, the workers, the unlettered and the poor, that provide a depth and a counterpoint to traditional history.

This was meant to be the story of William and Martha and their adventures as William worked as a miner on three continents. But as I pored over old documents and travelled the world looking for their history, other stories crept in, first my own tale of uncovering William and Martha's, and then those of all sorts of other people who lived at the same time or in the same places they did.

PROLOGUE

Johannesburg – July 1911

Martha brought a basin of hot water and the shaving things into the bedroom. William was propped up on several pillows, his chest heaving as his ruined lungs fought for air. His skin was dull and his face gaunt. Dark circles emphasised the paleness of his eyes. All that could be described as healthy, even luxuriant, about him was his moustache, which seemed to belong to someone else, someone young and vigorous. The man he'd been when she had married him, high up in the Colorado Rockies, 30 years before.

"All right, my 'andsome?" she murmured as she put the towel around his neck. "Keep still, now." She trimmed the moustache back to stubble with her nail scissors, then lathered his upper lip and shaved away what was left with his old straight razor.

The mouth that emerged was paler than the rest of his face, strange somehow. She had never seen him without the moustache. She rinsed his face and patted it dry.

"Does that help at all, boy? Can you get your breath now?"

He gave her a strained smile and took her hand. Then he leaned back against the pillows and closed his eyes.

She bent down and kissed him on the lips. "Well, that certainly feels different," she said.

She gathered up the shaving things and left the room, the ragged sound of his breathing following her down the passage.

In the kitchen of the Jeppestown semi the setting sun was shining through the kitchen window as she emptied the bowl down the sink. She'd been almost sure the shaving wouldn't help his breathing, but he had hoped it would.

Full moustaches had been an old miners' trick to protect their lungs from dust, but William's lungs were like stone from phthisis, the scourge of the Witwatersrand. She knew what was to come – she'd seen it often enough. The breathing would get worse and his struggle would make him increasingly exhausted.

When William died, which wouldn't be long now, his suffering would be over and a good thing too. But the thought of life without him was bleak.

They'd had almost 30 good years together, and two fine daughters. Katie had married a good man, and Ethel – well, she was not going to think about Ethel's fiancé right now.

She would concentrate on dear William.

She sat down at the kitchen table, no thought of supper, and put her head on her arms. It was going to get worse, she knew that. But she would get on with things for William. She would deal with what had to be dealt with after that.

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CHAPTER ONE – SILVER

Part One – Journey to Leadville

Denver, 2011

One hundred years after William's death my friend Sarah Davey and I are in Denver, on our way into the Rockies. The road curves south of the city, and then we turn off left on to Interstate 70 to head up the flanks of the Front Range. This is where the land, flat for thousands of miles across the Great Plains of North America, runs up against the Rocky Mountains.

The mountains fold away ahead of us, first green and then snow-tipped. We're rising ever higher, and although it's only early November, soon the snow is not confined to the peaks but has reached down to the road verges. Conifers are stick-like against the white slopes and the sky is part blue, part cloud. We stop at a lay-by next to a creek, and I get out, my boots crunching on the snow. It is very cold, and we reach for fleeces. I stomp down to the edge of the partly frozen creek, a South African delighted with the novelty of this icy world.

Back in the car we continue heading west. Sarah, who lives in London, is at the wheel on what to both of us is the "wrong" side of the road. She's concentrating hard – although she says she enjoys driving, her snow driving experience is minimal, and she's also driving an automatic for the first time.

The road surface is clean, but signs warn "road may be icy in areas". We pass lay-bys with notices reading: "Chain station – chains mandatory when lights flash. \$500 to \$2 000 fines". Just as well the lights are not flashing, as we have no idea if our hired car has chains. Nor would we have a clue, should they be tucked away in the boot, how to fit them.

We pass rivers and small wooden towns with names out of Wild West movies: Clear Creek, Beaver Creek, Black Hawk, Golden, Silverthorne and Silver Plume. Silver Plume – a reference to snow blowing off a mountain, or to silver ore? I'm seeking silver-mining history in the Rockies, and this name delights me. The mountains rear up around us, white against what is now a deep blue sky, and John Denver lyrics spin through my head.

We reach an interchange and I see something I've been looking toward for a long time, a sign pointing south: "Copper Mountain – Leadville".

Martha Jennings was “opposite”, to use an expression my grandmother occasionally applied to me: “You’re some opposite li’l maid.” Small and fierce – Martha would be described as feisty today – she did things differently. In 1883 she left her home in Cornwall as a single woman and sought adventure in the Wild West; nearly gave away one of her children; and set up home in a dusty Johannesburg that was barely six years old.

The family history was scant but clear: well beyond 30, Martha, described as a “general servant” in the 1881 census, married a lead miner from the Isle of Man called William Cogeon. They spent some years in Colorado where William mined for silver and where they had two daughters. They left the United States to return to England briefly, and then settled in Johannesburg. William worked on the goldmines until he died of phthisis shortly after his 60th birthday. A few years later, Martha accompanied her younger daughter Ethel, son-in-law Jimmy and two grandsons back to Cornwall, where she settled in a one of a pair of cottages in Cockwells, near St Ives. She died a few years before the outbreak of World War 2.

At a time when people married young, usually to someone from the same village or perhaps the one up the road, Martha and William chose a different way. And there seemed to be something exotic about their having lived in Colorado – as a child I was always impressed that my granny and her sister, Great-Auntie Katie, had been born in America, and not in South Africa or England like everyone else I knew.

No one alive remembers William now, but although Martha has been dead for more than 70 years, she lives on in the memory of one person, her granddaughter Thora, my mother. One afternoon Thora and I are sitting under the vine in her garden in Lakeside, near Cape Town, talking about William and Martha, and she says: “I’ve got some pictures of them, you know.”

She goes indoors and reappears with an old biscuit tin. It’s dusty inside – she has sprinkled the contents with some sort of anti-fishmoth powder. First I pull out a plastic bag containing a large white-spotted red handkerchief. I recognise it immediately – it was pressed into service numerous times when one of us kids was going to a fancy-dress party. A cowboy hat, a checked shirt, jeans, rubber boots, and the red handkerchief around your neck, and you were a cowboy. Pretty much the same outfit, but with brass curtain rings for earrings, a black eyepatch and the kerchief worn as a doek, and you were a pirate.

“That was Grandfather Cogeen’s handkerchief,” says Thora. “They used to take their lunch down the mine wrapped in handkerchiefs like that.”

Below the scarf is an old-fashioned photograph album, with a blue plush spine and a pink cover. Once the album had a clasp that you could lock, but that’s gone. I recognise the album, it was my granny’s. Inside there is a collection of photographs dating back to the late 1800s. There’s a full length portrait of Martha, aged about 30, in what I take to be a formal costume - feathered hat, shawl knotted over a three-quarter jacket, and a long dark skirt with pleats around the hem. She’s wearing black leather gloves and carrying a small basket. She’s not a pretty woman, but she has piercing dark eyes and a determined chin – not a person to mess with.

There’s a head-and-shoulders of William as a young man, with short hair, pale eyes, a faint dimple in his chin and a luxuriant moustache that entirely hides his mouth. He’s also dressed formally in a velvet-collared overcoat, suit jacket, and what looks very much liked a clip-on bowtie.

There’s another picture, obviously taken some years later. It’s a family portrait, with William and Martha staring seriously at the camera. William is in a three-piece suit with a rose in his buttonhole. His hair has thinned, but his moustache is as jaunty as ever. Martha is wearing a tight dark blouse with leg-of-mutton sleeves, and has a little gold brooch at her throat. Leaning against her is their older daughter Katie, aged about six, in a black frock and white lace collar, her red wavy hair reaching her shoulders. Although it’s a black-and-white picture I know Katie’s hair is red – my mother always hoped one of us would inherit it. None did.

Sitting on William’s lap is a little girl aged about four, my grandmother Ethel. She’s wearing a dress identical to Katie’s, and like her has black-buttoned boots. Both girls have inherited Martha’s sharp dark eyes. In the photographic style of the time, no one is smiling, but there is affection in the way Katie leans against Martha, and the curve of William’s hand resting on Ethel’s hip.

There is another photograph, a snapshot, that someone has shoved loose into the album. It is of two little old ladies on a couch of the type that used to be called Danish modern. Both are smartly dressed, and sit with neatly crossed ankles and hands folded on their laps. They are Katie and Ethel, and the picture was taken on Ethel’s 80th birthday in Alberton, near Johannesburg. Katie is comfortably plump, and smiling, while Ethel, much thinner, stares sadly at the camera. Why is she sad? I don’t know – I don’t remember her being sad.

There's a final picture in the album, a much older William, with the same light eyes and heavy moustache. It's a less formal photograph than the others; he's standing in a garden leaning on some kind of parapet. Intriguingly, the photograph has been cut in half and someone has been discarded. Why – and who? Granny Ethel might have known – but we never asked.

I've seen all these pictures before; in fact my handwriting is on the back of several of them, identifying the subjects. At some point I must have sat with Ethel or possibly Thora and written down the names before the fickle memory of families erased their provenance. But now I'm looking at them with new attention. What made them buck the trend, leave their British villages and travel halfway around the world? I know that thousands of Cornish tin miners did leave the county in the late 1800s because the price of tin had plunged and work was scarce, but why did Martha leave? And William? He wasn't Cornish – he was from the Isle of Man, where they mined lead, not tin. Why did he go?

That night I study the pictures again. The formal studio portraits are all stuck on to pasteboard, with the name of the photographic studios below. On the back most carry the legend: "Negatives kept – copies always available." The full-length picture of Martha and the family group were both taken in Penzance, Cornwall, while the head-and-shoulders of William is marked Needles Studio, Leadville, Co. I look at it again. Leadville? I've never heard of the place – we were always told the family had lived in Denver, where Granny Ethel was born.

I switch on my computer and ask Google what it knows about Leadville. It seems Leadville is in the heart of the Colorado Rockies near the headwaters of the Arkansas River. It is about 100 miles from Denver, at an altitude of 3 094m, which makes it just under two miles high – twice the altitude of Johannesburg on the Highveld. It is the highest incorporated city in the United States.

Wikipedia says in the late 19th century Leadville was the scene of a silver boom, and that by 1880 it was the site of one of the world's biggest silver mining camps, with a population of more than 40 000. A century later, according to US Census Bureau statistics for 2005, just 2 688 people live in the town.

Leadville was a real Wild West city. The dentist and outlaw Doc Holliday moved to Leadville around 1883, shortly after the fight at the OK Corral. The "unsinkable" Molly Brown lived there some years before she survived the sinking of the Titanic. The Guggenheim family launched their fortune there. And Oscar Wilde visited Leadville in April 1882 while on an American lecture tour.

To my delight I read of the source of a famous witticism: Wilde recounted a visit to a Leadville saloon “where I saw the only rational method of art criticism I have ever come across. Over the piano was printed a notice – ‘Please do not shoot the pianist. He is doing his best’.”

Were William and Martha among those crowding into Leadville? What took them there? And why have I never heard of the town before? I ring Thora, but she hasn’t heard of Leadville either. “Mother always said they lived in Denver.”

The next morning my son Thomas and I power up Google Earth. There is the little town, surrounded by snowy peaks, with a lake, called Turquoise Lake, to the west. We study the snapshots again in case they have more information. And they have.

We look at the full-length portrait of Martha. On the back, apart from her name in my handwriting and the photographer’s name – “Robt H Preston. Photographer to the Prince and Princess of Wales. Penzance” – and the royal coat of arms, there is something faintly written in pencil. It’s barely legible, but the figures 5/6 are clear. We pore over it – it seems to be an order for another copy of the photograph: “Mrs Cogeen 5/6 ... illegible, illegible... copy bust only 8 x 10”.

I tell Tom: “The figures are probably the price of the copy. Look, they must have charged five shillings and sixpence in the old English money.”

But he’s got out the magnifying glass and says: “No! Look, under the numbers there’s a word that looks like ‘Leadville’.”

He’s right. Something ... something ... Leadville. He gives whoop. “It’s an address! That’s not a price, it’s a street number. It says Mrs Cogeen, 516 E 3rd St, Leadville!”

We go back to Google Earth, type in 516 East Third Street, Leadville, and the image sways and circles before settling on a lot on the east side of town. It *is* an address. Now we know they really did live in Leadville, and where. The image is not clear – whatever is on it appears to be somewhat tumbledown. But it’s a breakthrough. We high-five each other.

I want more. I discover the existence of a local newspaper, the Leadville Herald Democrat, that was founded in 1879. Perhaps it had a classified section that could confirm that Katie and Ethel were born there. I email the editor, explaining that I too am a journalist, and ask if they have very old copies which might yield this information. It’s a Saturday afternoon and I don’t expect a rapid reply – previous emails to organisations like the local tourism office and the Methodist church – I know Ethel was christened in a Methodist church – have gone unanswered.

But I've underestimated Marcia Martinek, editor of the newspaper. Within an hour she replies:

I have forwarded your e-mail to Janice Fox at the Lake County Public Library. She is in charge of the genealogy division. The library has all past editions of our paper and others on microfilm. The early newspapers did not have marriages and births columns. Some are included; others not. Good luck. If you ever get to Leadville, be sure to stop in.

Half an hour later another email drops into my inbox. This time it's from Janice Fox.¹ She writes: "Marcia at the paper forwarded your email. I have found some information on your family and am attaching it."

There is a copy of the town's marriage index, where I discover William and Martha were married in Leadville, not England, on "5/10/1884". There is also a Harry Cogeon, who married Irma Turnbull in Leadville in 1886. I have never heard of Harry, but the next attachment has more information. It is a page of the census taken in Colorado on June 1 1885. While William isn't listed at all, Martha is there, along with Catherine, her infant daughter, Thomas Jennings, her miner brother, and Harry Cogeon, her "brother-in-law".

And finally there is a page from the Leadville Directory for 1885 listing both William and Harry, described as miners, living at 516 East Third Street.

There is so much new information here I don't know where to start. If William and Martha were married in Leadville, where did they meet? Did she travel all the way to the US on her own, and if so, why on earth did she choose to go to Leadville? Or was she travelling with Thomas, her brother? And who is Harry? He may be listed as a brother-in-law, but I have a family tree with all William's siblings on it, and there isn't a Harry.

There is also some momentary confusion regarding the dates. Catherine/Katie is recorded as six months old at the time of the census on June 1, putting her birth date around January 1 1885. Yet her parents were married only in October the previous year. Had Martha, oh my goodness, been very pregnant when William made an honest woman of her? But then I realise I've misunderstood the date – "5/10/1884" is written the American way, with the month first. They were actually married on May 10 1884. So not very pregnant then – but a little.

There's a lot to process here, a lot to figure out. But I've certainly pinned them all down in Leadville, one of the wildest towns in the old Wild West.

Part Two - “I’ve just got California in this here pan”

Leadville grew from a mining camp into a more-or-less respectable town, beginning in the late 1870s. The Herald Democrat’s first owner, Carlyle Channing Davis, described its setting: “The site of Leadville is picturesque in the extreme. It lies in an elevated basin, between the main range of the Rocky Mountains and a parallel spur, known as the Mosquito Range, and between them, midway in a broad valley, courses the Arkansas River, its source but 12 miles distant. At right angles with the last-named range California Gulch extends westward to the river. Midway on the left bank of the gulch, Oro City arose and fell, the early settlement having been made there in close proximity to the placer workings...”²

Leadville’s history began in California Gulch, south-west of the town. Gold strikes in California in 1849 gave rise to the Forty-Niners’ gold rush, and among the early prospectors was one Abe Lee. Ten years on, stories of gold in the Rockies led prospectors into the mountains. What with the bitter weather – the upper Arkansas Valley can have snow every month of the year – and the energy-sapping altitude, the mountains are not an easy place to be. But the lure of gold was strong.

In April 1860 the valley was still gripped by winter. Leadville historian Edward Blair says the snow lay nearly a metre thick, and the river was frozen over in most places, so that prospectors had to build fires to thaw the water before they could start panning. A group began working a stream running into the Arkansas from the Mosquito Range. Their panning showed some colour, as the miners put it, and they pressed on up the gulch.

Around April 20 Abe Lee filled a pan, and stared intently into it. The other prospectors, huddled around a fire nearby, noticed his concentration. One called out: “What’ve you got, Abe?”

“Oh boys,” shouted Lee. “I’ve just got California in this here pan.” As Blair says: “The gulch had a name, a hero and a legend.”³ This story is reportedly one of many told of Lee’s discovery, but Blair gives it credibility as it was written down by a prospector who had been part of the party.

By mid-June it is estimated 5 000 people were living and working in the California Gulch area. Among them were Horace Tabor, his wife Augusta – the first woman in California Gulch – and their son Maxcy. Tabor was destined to play an important role in the setting up of Leadville, and his name is still famous in the town today, partly because of his legacy, but also because of his involvement in a famous scandal that outraged half of America.

According to Edward Blair in his book *Leadville: Colorado's Magic City*, the Tabors had been running a store around 1860 in a place called Buckskin Joe, now a ghost town east of the Mosquito Range. One day a man entered the store and found the hard-working, grim-faced Augusta behind the counter. He offered her his mining claim in the area in return for his board, while he started a transport service with two mules. Augusta, used to miners trying to pull a fast one, declined. Later Horace heard the man had sold his claim to two prospectors for \$100. It produced silver worth \$80 000. It was a useful lesson, and Horace learned it.

Not long afterwards the Tabors crossed the Mosquito Range into the Arkansas valley, settling at a place called Kelley's Diggings. Augusta Tabor would write of their time there: "We found plenty of gold, but there was so much black sand we did not know how to separate it." That black sand would be the basis of Leadville's fortune.

At Kelley's Diggings the Tabors heard reports of the find in California Gulch, and moved north up the valley, reaching the gulch in May 1860. With people pouring into the area, Augusta Tabor saw a business opportunity and started cooking meals for the miners. The area became known as Oro City, with cabins, tents, shops, saloons, gambling dens and girls. Most men – Oro City was 90 percent male – carried guns: side arms, a rifle or a shotgun. By 1868 Horace Tabor was postmaster of Oro City, running the post office from a corner of his general store.

But the alluvial or placer gold was almost all gone, and people started to leave. Finally, in the mid-1870s, a pair of men, William H Stevens, a prospector, and Alvinus B Wood, a mining engineer and metallurgist, arrived in California Gulch convinced that a lot of gold had been left in the mine tailings. They too were bothered by the heavy black sand but, being more knowledgeable, they had it assayed. It turned out to be lead carbonate, and the assay showed the ore was 27 percent lead with 15oz of silver to the ton. They began quietly buying up claims.

Stevens and Wood were not the first to suspect major deposits of silver in the hills above and to the east of what became Leadville. Blair tells a story – which he concedes may not be true – of how Abe Lee, the Forty-Niner, was behind the discovery of silver too. Lee, down on his luck, was back working in the area in the mid-1870s when his horse wandered off. Tracking the animal he noticed a curious outcropping of black rock, and took a few pieces with him. Later he bumped into a miner called Jacob Long, told him about the black rock and gave him some samples. That evening, sitting around a fire and chatting to his brother and a friend, Long showed them the sample. They thought it was coal and threw it into the fire. Instead of burning, it began to melt.⁴

From the beginning Leadville was a wild town. The reports in the local newspaper, the Leadville Chronicle, read as though even the reporters were astonished at the debauchery. A piece published on January 10, 1875 reads:

Leadville never sleeps. The theatres close at three in the morning. The dance houses and liquoring shops are never shut. The highwayman patrols the street in quest of drunken prey. The policeman treads his beat to and fro. The music at the beerhalls is grinding low. A mail coach has just arrived. There is a merry party opposite the public school. A sick man is groaning in the agonies of death. Carbonate Hill with her scores of briefly blazing fires is Argus-eyed. Three shots are heard down below the old courthouse. There is a fight in a State Street casino. A woman screams. ...

Another shot is heard down near the city jail. A big forest fire lights up the mountains at the head of Iowa Gulch. 'Give you the price of a bed, do you say?' 'Yes, I've not seen a bed for a week. Believe me, kind sir, I'm sick and in need of a friend. Help me, stranger, and as true as I live I'll repay your kindness.' The clock on the Grand Hotel points to one. Shots are heard from Carbonate Hill.

This was a time when a down-and-out really might repay your kindness if he struck it rich, and he often did. In 1878 a kindness done by Horace Tabor, by then a Leadville shopkeeper, to two mining hopefuls formed the basis of his fortune.

One morning in April of that year, a pair of German shoemakers called August Rische and George Hook approached Tabor and asked for some backing. He gave them two picks and shovels, food for a week and a jug of whisky – all worth around \$17– in return for a third of whatever they found. Rische had been working as a miner for some years, and so knew what to look for. The men headed up Fryer Hill on the east of town, and started digging. A week later they were back in Tabor's store for more food, and the week after that. In all, he grubstaked them three times. During this period they registered their claim as the Little Pittsburg. A month to the day after they had first approached Tabor, they hit a vein of carbonate ore yielding 20oz of silver to the ton.

Leaving Augusta and Maxcy to mind the shop, Horace joined the Germans, and by the end of the summer in 1878 they declared a \$10 000 dividend for each of the three partners. Kindness had paid, gloriously.

At first after the discovery of silver, ore had to be sent to a smelter company in St Louis, but in 1877 the smelter owner, Edwin Harrison, decided it was worth building a

smelter in California Gulch. A smelter in the valley meant mining became economically viable. By mid-1878 fortunes were being made.

A display in Leadville's Heritage Museum says: "In most mines a vein of good ore three to 4ft thick can be expected to yield a fortune. One worth 50oz of silver to the ton would make a person rich. The mines on Fryer Hill, east of Oro City, had ore bodies that were 20 feet to 30 feet thick carrying 100 oz to 1 000 oz of silver to the ton."

Around the time the Little Pittsburg was registered, a man called William H Lovell, but known to everyone as Chicken Bill because of a disastrous plan to import poultry to Leadville, decided he wanted some of the money being made from Fryer Hill. Chicken Bill was known to be smart, lazy – "and crooked as a dog's hind leg". He sank a shaft he called the Chrysolite near Fryer Hill, but lost interest after digging about 20ft down, and decided to sell the claim. To make a decent return out of it, he stole carbonate ore from the Little Pittsburg and salted his shaft. He then had the cheek to offer the claim for sale to Tabor. Lake County records show that Tabor paid Chicken Bill \$10 000 for a quarter interest in both the Carboniferous and the Chrysolite, adjoining claims close to the Little Pittsburg, on July 13 1878. "Everyone" knew that Tabor had been taken for a ride by Chicken Bill, but Tabor had the last laugh. He put men into the Chrysolite shaft, and a contemporary wrote at the time: "The joke of it is, if the damn fool Bill Lovell had sunk 10ft further he would have struck a mine that would have been worth a million and a half."⁵

The early mines used a horse-drawn whim to haul out the ore. The museum display says: "...the whole concern, horses and all, costs less than \$400 dollars; but it is the machinery used to work million-dollar mines in Leadville and it takes out thousands of dollars' worth of ore each day..."

People poured in. George Elder, a Princeton law graduate, wrote home in January 1879 from Leadville's Tontine Hotel: "You can possibly have no idea of the rapidity of action here. All is push and bustle. The streets are crowded and every other house is a saloon, dance house, etc. I am writing now in the shadow of seven bottles of some odoriferous substance."⁶

By the American spring of 1879 people were arriving in Leadville at a rate of 100 a day. A huge tent, known as the Wigwam, was used as a place to stay. Newcomers would rent a bunk and blanket for eight-hour shifts. All sorts of entertainment was available in the town, some of its wholesome, most of it not. Shows in the five theatres were often interrupted by a drunken marksman trying to shoot the lights out. The number of guns in town could be a problem, not least for the gun owners themselves.

One story, which dates from 10 years later, comes from the Leadville Herald Democrat of March 1886, by which time the town was supposed to be settling into respectability. It was about a young bar porter called Charlie Jackson, who worked at the Texas House gambling hall and liked to pose with his six-shooter in front of the mirror.

Yesterday morning he finished his labours at the bar, and sought his room. He was looking at the six shooter and wondering where the contents would land when there was a quick report, the blood spurted over the wall paper, and a portion of the index finger on the right hand was lying on the floor. He looked at the bloody member, then at the smoking weapon, and then started for the surgeons, where it was dressed. Charlie announces that he has a six shooter for sale...⁷

Leadville's heritage museum had information about the lawlessness of the early days. One William Stevens reportedly said that of the first \$11million he made from his Iron Hill silver mine, he spent \$9million in litigation, just trying to maintain his ownership. If he had had to do it all over again, he said, he "would just get a shotgun and shoot anyone stepped on to his property".⁸

The night the Tabor Opera House opened in November 1878, a vigilante lynching took place across the street with victims suspended from the beams of a half-completed building. This did not deter the patrons, and more than half the theatre's 800 seats were filled.

In April 1882 Oscar Wilde experienced Leadville's gun-happy culture for himself during his American lecture tour.

He wrote to a friend: "I have also lectured at Leadville, the great mining city in the Rocky Mountains. We took a whole day to get up to it on a narrow gauge railway 14 000 feet in height. My audience was entirely miners..."

Wilde had two lecture subjects – *The Decorative Arts* and *The House Beautiful*. Neither would seem of interest to the residents of a rough mining town, but Wilde reports that he had some attention. The miners slept through his description of the early Florentines, he wrote, "wept like children" when he discussed Botticelli, and became excited when he referred to James Whistler's "nocturnes in blue and gold".

Then they leaped to their feet and in their grand simple way swore that such things should not be. Some of the younger ones pulled their revolvers out and left hurriedly to see if Jimmy was 'prowling the saloons'... had he been there I fear he would have been killed, their feeling was so bitter. Their enthusiasm satisfied me and I ended my lecture there.⁹

Wilde was taken by bullock wagon to Horace Tabor's Matchless silver mine where a banquet was served underground. "The amazement of the miners when they saw that art and appetite could go hand in hand knew no bounds; when I lit a long cigar they cheered till the silver fell in dust from the roof on our plates..."

Then he was asked to open a new lode:

The silver drill was presented to me and the lode named 'The Oscar'. I had hoped that in their simple grand way they would have offered me shares in 'The Oscar', but in their artless untutored fashion they did not. Only the silver drill remains as a memory of my night in Leadville.

A lot of drinking went on. Residents reportedly drank 200 kegs of beer a day in the early 1880s. The money was good too – an efficient barmen could earn \$100 a month, around 25 percent more than a miner who earned \$3 a day. And in those early days the miners worked 10 hours a day, six days a week.¹⁰

Slab houses – made from pine planks or "slabs" – began to replace tents to house both miners and businesses, and the area near the smelter was called Slabtown. As money poured in, brick buildings, some with elegant cupolas and other Victorian features, went up among the wooden cabins. People felt that Slabtown was not a fitting name for their growing town, and there were discussions about a new one. Some liked Cloud City, because of the altitude, others liked Magic City, and names such as Carbonate, Cerussite (another name for lead carbonate), and Meyer were also considered. Most preferred Leadville. Meanwhile the mining treasure kept coming up – in 1880 alone, gold, silver and lead worth nearly \$15million was mined and processed.

In the same year the railway had arrived over the mountains, halving the journey from Denver from 20 hours in a stage coach to just 10. There were street lamps and telephones, indoor plumbing, saloons, a county courthouse, schools, churches and St Vincent's hospital. And people with names like Guggenheim were laying the foundations of their fortunes.

Part Three – "That ol' place"

Heading west along Interstate 70, Sarah and I ignore the turn-off to Copper Mountain and Leadville and carry on towards Vail which, with Aspen, is one of Colorado's most famous ski resorts. I want to see Vail, under the mistaken impression that, like Leadville and

Aspen, it was once a mining town. In fact it has an entirely different history. During World War II an army camp was built not far from Leadville to train the US Army's Tenth Mountain Division in mountain and winter warfare – the division later saw service in the mountains of north Italy. (As late as 1942 Leadville's reputation was such that the division's trainees were not allowed to visit the town in their time off.) After the war a Mountain Division veteran returned to the area to look for a suitable place to set up a ski resort, and did so in the Vail valley.

Vail is a purpose-built village of Alpine-style chalets straggling along the foot of the valley, parallel with the interstate. Above it soar pine-cloaked snowy mountains. Even before the winter season has officially begun, we spot tiny dark figures whizzing down the pistes. We stop for lunch in a pub where we see evidence of the wildness of these mountains – a framed photograph of a startled bear in the pub kitchen, its eyes reflecting yellow in the camera flash.

After lunch we head on. We're not specially taken by Vail, although in the town's large off-licence we are impressed to see South African wines among those from many countries. The store obviously has a sophisticated clientele.

Not long after Vail we turn south off the interstate towards Leadville. We're now on a local road, and Sarah drives as tree-shaded stretches of tarmac are still icy. There's a sign saying "Top of the Rockies", and I'm elated. The car thermometer tells us the temperature is 27 F (-2 C). We pass the little town of Minturn and continue along a winding road that clings to the side of Battle Mountain, with the terrain dropping off sharply to our right. Coming around a curve we see a cluster of painted wooden houses across the valley several bends ahead. By the time I've realised what they are, we've passed the obvious place to stop and take a picture. But at my excited squawks Sarah pulls off the main road at what was once the turn-off to the mining village of Gilman.

I've heard of Gilman. Some months previously I had passed a quiet Sunday morning on the internet seeking Cogeens in the United States. My genealogist neighbour, Heather MacAlister, who did some of the research for the South African version of the TV series *Who do you Think You Are?*, helped me find a Nellie Cogeem, born in 1887 in Gilman, Colorado, whose parents turned out to be Harry Cogeem and Erma [sic] Turnbull. This was exciting: Harry had to be William's brother Harry Cogeem, with whom William and Martha were sharing a house in Leadville in 1885, and who married an Irma Turnbull in Leadville 1886, according to the information sent me by the Leadville library. Nellie Cogeem is obviously

family. I check the map and discover that Gilman is just up the road from Leadville, and is described as an abandoned mining town.

Gilman was founded in 1879 during the Colorado silver boom, and became an important producer of lead and zinc. In 1984, when it was just over a century old, America's Environmental Protection Agency ordered the evacuation of its roughly 300 residents because of toxic pollutants in the soil and contamination of the ground water. There were "large amounts" of arsenic, cadmium, copper, lead and zinc in the soil, according to the EPA, and fish died in the Eagle River. Not only that, the pollution was threatening nearby Minturn's drinking water. Today the turn-off to Gilman is barred by a great gate, and there is a signboard next to it, reading:

Private Property. No Trespassing. WARNING. Area contains both hidden and visible dangers, including without limitation, hazards associated with abandoned mining works, rough terrain, rocks, cliffs, steep slopes, unstable geology, fallen timber and water. RISK OF INJURY OR DEATH. Authorised personnel only.

Beyond the gate the road slopes down sharply towards a cluster of houses tucked away among snow-dusted pines.

I take photographs of the little we can see of the town. What with the snow, the warning, and the fact that there's only an hour or so of daylight left we decide it will be foolish to enter.

Wikipedia says of Gilman today:

The town site is a victim of vandalism, and the town's main street is heavily tagged. There are only a few intact windows left in town, as 20 years of vandalism have left almost every glass object destroyed.

However, many parts of the town are almost as they were when the mine shut down. The main shaft elevators still sit ready for ore cars, permanently locked at the top level. Several cars and trucks still sit in their garages, left behind by their owners.

Later I read an EPA report on Gilman and discover, to my chagrin, that we could have entered with virtually no risk at all, provided we avoided falling down a mineshaft: "Results of risk analysis indicate basically no risk to a trespasser for the unlikely exposure of 90 consecutive days." The greatest danger would have been the possibility of arrest by the Eagle County Sheriff.

The people of Leadville were deeply hostile to the EPA when it took a similar interest in the pollution caused by more than a hundred years of mining in and around that city, and I wonder about the anger and misery the few hundred residents of Gilman must have felt when the order came to abandon their town. The Harry Cogeen, though, had left the area long before – by 1904 both Nellie and her sister Lila were living in Ionia, Michigan.

Kicking the snow off our boots we get back into the car for the last half hour to Leadville. Fifteen or so minutes further on we reach the summit of Tennessee Pass, which marks the continental divide – the spine of North America. The sign says it's 10 424 feet above sea level, and just 136 feet short of being two miles high. "If we get lucky in Leadville we could join the two-mile-high club without having to get into an aircraft," I say. Sarah rolls her eyes.

The mountains tower over us, the pines a dark green velvet. The air is sharply cold, and the car thermometer says the temperature is now down to about 20 F (-6 C). We pull in at the pass summit sign, next to another car. Just off the road is a memorial to the 10th Mountain Division, so I put on a second fleece and stomp over to it. A man about my age is in front of the memorial talking on his cellphone. It becomes clear he's describing the memorial to his father, and reading off some of the names on the bronze plaque. When he hangs up he says his father was a member of the division during the war, but has never seen the memorial. Some of the names are those of his friends. I use the son's camera to take a picture of him in front of the plaque for his dad.

It's around 3.30 pm and the shadows are stretching across the road as I get back into the car. "Leadville or bust!" I say, and Sarah smiles. I stare out of the window as the snowy pines flash past. What would Martha Cogeen say if she knew her great-granddaughter had gone all the way from Cape Town to Leadville to see where she had married more than a century before and where her daughters had been born?

I've never met Martha, never heard her voice, but clear in my head I hear the old Cornishwoman's reply: "What'ee want to go and visit that ol' place for? It was bitter cold. I never liked it."

Part Four – Ed and Peri and Silver Dollar

We pass a couple of modern motels and discount stores on the outskirts of Leadville, and then the road curves round into the main street, Harrison Avenue, a Karoo-wide main street bordered by Victorian buildings that look straight out of a Western movie. There's the

pretty Edwardian City Hall; a big shop, open this late-afternoon Sunday, selling winter outdoor gear; the Golden Burro Café; the Delaware Hotel; a shop called Cookies with Altitude; the Pueblo Bank; a book store; the very modern Lake County Courthouse; an Italian restaurant; a steak house; a big Victorian building called Western Hardware Antique Mall; the Tennessee Pass Café; the Tabor Opera House and a store called the Leadville Trail 100.

We park outside the Delaware Hotel, an elegant Victorian building, but it's closed for the winter. At a loss, we go into the outdoor gear store, Melanzana, where a pleasant young woman produces a town guide leaflet with the names of two bed-and-breakfast places. We head around the corner, past a house whose fence is made up entirely of skis shoved vertically into the ground, to Peri & Ed's Mountain Hideaway.

It's a pretty wooden house on a corner plot shaded by firs, and a couple of cars are pulled up around the side. We step up onto a little porch. Inside four or five 60-something men, beers in hand, are settled deep in armchairs and a sofa, watching "the game" – what we discover is the regular Sunday evening American football match. They're loud and cheerful and we hesitate on the porch just a touch too long. They notice us and then Ed, a bear of a man with a fringe of white hair, gets up. Too late to flee now.

Ed invites us in and shows us around. The rooms have beds covered in patchwork quilts, windows screened in lace. Ed tells us his wife is away in Boston, but will be back tomorrow. All is fine, but we hesitate – he is loud and bluff, he yells to his friends. Sarah and I look at each other nervously. "What's the matter?" he bellows. "You scared of me or sump'n?"

Leading us back out to what Americans call the Great Room, a living room cum dining room cum kitchen obviously built on to the original wooden house, and which is showing signs of bachelor neglect, he tells us he'll make breakfast in the morning, and "may even clean this place up". As Ed sees us out to find something to eat, he turns to his friends and demands: "What've I missed?"

As we get into the car, Sarah says: "He's utterly pissed, you know."

"Do you think?"

"Absolutely. As a newt."

It's dark now, although it's only around 5pm. We drive down the main street, Harrison Avenue, and park outside a double-storied wooden saloon called the Silver Dollar. Inside it is exactly what you might expect – wooden floor, tables, a big bar backed by bevelled mirrors in an ornately carved mahogany frame. Not many people are there, but a couple of guys are sitting on stools at the bar, motorbike helmets on a table behind them. A

skinny young barmaid, wearing just jeans and a vest despite the freezing temperature outside, supplies us with glasses of cheap white wine. We get the feeling that dry white wine is not the tippie of choice in Leadville.

We slide off our stools to examine the pub memorabilia pinned up all over the walls. There are a lot of 1900-style black-and-white photographs of the same person, a pretty child in white Edwardian dress, and then a soulful-eyed young woman. The skinny barlady says she's Silver Dollar, after whom the saloon is named.

Silver Dollar? Later we hear the whole story. Silver Dollar was the younger daughter of Horace Tabor and his second wife, Baby Doe.

His other mines made Tabor wealthy, but it was a mine called the Matchless that made Tabor his fortune. In September 1897 he bought the mine, up on the hill beyond the end of East 7th Street. He paid \$117 000 to the three owners of the claim, and spent another \$30 000 dealing with lawsuits against the property. But despite having to deal with rising water, by January 1881, "the Matchless was bestowing \$2 000 a day on Mr Tabor". One shipment of ore was reported to have provided returns of 10 000 ounces of silver to the ton.¹¹

People would have talked about Horace Tabor because he was a popular and generous fellow and was raking in a fortune. But there was more. Elizabeth Bonduel McCourt Doe, a pretty young divorcee from Oshkosh, Wisconsin, arrived in Leadville in early 1880 aged about 25 to make a new life. She knew something about mining, as she and her husband, Harold Doe, had unsuccessfully worked claims near Colorado's Central City.

Elizabeth was attractive, but also steely. She wasn't after just any guy – she wanted someone who could give her a good life. Horace was about 50 when they met, but no match for Baby Doe. And his marriage to Augusta was under strain anyway, partly because she had a Puritan disdain for the vast riches he had made.

By the time Horace married Baby Doe in Washington in March 1883, all three were living in Denver. After the divorce Augusta stayed on in the couple's mansion in Denver, taking in boarders and working for charities. She died in 1905, and was inducted into the Colorado Women's Hall of Fame in 1991.

Baby Doe was never accepted by Denver society, but she and Horace seem to have truly loved each other – and had a lot of fun. By all accounts Horace and Baby Doe spent wildly, despite their being socially non grata. And they might have lived happily ever after, had not the bottom dropped out of the silver market with the repeal of the Sherman Silver Purchase Act in 1893. This meant the US government was no longer obliged to buy up

American silver. Tabor and many others were ruined. Mines closed, and so did the smelters. Many people left Leadville.

Tabor and Baby Doe had two daughters, a prim one called Elizabeth Bonduel Lily, and Silver Dollar. The story was that a politician visited the Tabors in 1890 shortly after the second baby was born. The baby gurgled, and the visitor said: “That baby’s laughter has the ring of a silver dollar!” She was named Rosemary Silver Dollar Echo Honeymoon Tabor. Years later, and fond of a drink, Silver Dollar came to a sticky end. Surviving on hand outs from a boyfriend and some acting roles, in 1925 she upset a kettle of boiling water over herself and died of her burns. She was just 35.

Tabor died of appendicitis in April 1899, and the story is that on his deathbed he said to Baby Doe: “Whatever you do, hold on to the Matchless.” It is not clear that Tabor and Baby Doe still even owned the mine, but Baby Doe moved into a cabin on the property, where she became an increasingly eccentric old woman. Poverty-stricken, she froze to death in the cabin in March 1935.

You can take a guided tour of the Matchless these days, and see the cabin where Baby Doe died – but not in November; much of Leadville is closed in the winter. Nevertheless, in the late afternoon of our second day in town, Sarah and I drive up East 7th Street to the Matchless gate, and climb up a snowy bank on to the 11-mile Mineral Belt Trail that circles the town, part of the legacy of the Environmental Protection Agency’s interest in Leadville. Standing on the bridge over East 7th Street we’re above the mine, its ugly tailings covered in a forgiving blanket of snow. We look down across the valley that contains Leadville, and across to the great mountains west of the town, the Sawatch range that includes Colorado’s highest mountains, Mount Elbert and Mount Massive, both more than 14 000 feet high. Behind us the road winds up into the firs that cover the lower slopes of the Mosquito Range. As the sun sets west of town, the sky behind us turns pink and a full moon rises above the trees. While many people have spoken of Leadville being a gritty mining town, no one had ever mentioned it was beautiful.

Back in town, after another visit to the Silver Dollar we walk home in the dark, down a side lane to Ed and Peri’s. Ice crystals in the snow glitter in the moonlight, but despite the cold, our breath makes no clouds, presumably because the air is so dry. A couple of discarded Halloween pumpkins, their collapsing faces carved into toothy grins, are out beside the dustbins

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The time-shattering flight from Cape Town via Istanbul to New York, and the two-hour difference between Eastern and Mountain time, has me waking around 4am in a dark Leadville bedroom, while the world – and Sarah – sleep on. But by the focused light of my little headlight, I'm able to read, write up my travel journal, and puzzle over the various family members who came to Leadville in the early 1880s.

William was the youngest of nine children born to Thomas and Catherine Cogeon – not counting Harry, who is something of a mystery. They all lived in the parish of Lonan on the Isle of Man, a speck of an island in the Irish Sea. William grew up to be a lead miner in the Great Laxey Mine on the island's east coast. Laxey is famous for being the home of the Lady Isabella waterwheel, icon of the island, which pumped water from the mine's deep levels, and remains the largest working waterwheel in Europe.

William is listed in the 1871 British census as a 19-year-old lead miner, living with his mother and Harry in Laxey, but has disappeared by the 1881 census. Family lore is that there was a miners' strike on the island, and that pamphlets were handed out offering work on Cornish mines to the striking miners.

Did William go to Cornwall? We don't know for sure, but it seems likely. It would explain how he came to know Martha and her brother Tom Jennings. He didn't stay in Cornwall long though – he's not listed in the British census of 1881. By 1885, now 35, he was in Leadville with Martha, baby Katie, Tom Jennings and Harry, just 21.

A year later, William was still at no 516 East Third Street, according to the Leadville Directory of 1886, but Harry had moved to no 521, which turns out to be right across the road, probably because by this time he had married Irma Turnbull.

Another year later, William – and his women folk who by now included baby Ethel – were living at 808 East 6th Street, and Thomas Jennings was down the same road at no 513. Harry has disappeared, presumably to Gilman where his daughter Nellie was born in 1887.

So we have several addresses to explore.

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Ed Solder, our host, cooks us breakfast. Ed is a large man in his 60s with a florid face, white hair and a lot of opinions. He's also very funny. We realise he probably had not been drunk – well, not much – the night before. He's just like that – loud, bluff, slightly outrageous.

He tells us with pride about his enormous son Nate, 23, who plays American football for the prestigious New England Patriots of Boston. Gesturing at his own girth he says: "Look, I'm big. But I knew that if I wanted to produce football players I needed altitude. So I

married Peri.” Peri turns out to be a youthful white-haired woman over 6 feet tall. Their younger son Nate is an astonishing 6 feet 9 inches.

Ed’s had an interesting life, from fighting in Vietnam (“at the same time that I was protesting against the war,” confides Peri later) to being a builder. Now he’s partially retired, still doing some building work and helping run the bed-and-breakfast establishment. Peri is an estate – sorry, real estate – agent.

We’re sitting at the table in the large living room which Ed built on to the back of his house. It has bare rafters, windows on three sides with views to the Sawatch range in the distance, and is flooded with sunshine despite the snow outside. It’s warm indoors, and Ed says that his single biggest expense in Leadville is heating oil. Seeing that today’s temperatures will range from -18 C to -2deg C, and that at 9am it’s just -9 C, you can see why.

The old part of the house faces east, and the front is in deep shade. Ed says it was opened as a guest house in 1879, and that he and Peri are maintaining the tradition of hospitality. He “saved” the house, repairing it and making it habitable, and adds he’s saved many other houses around the town. Long fierce winters are not kind to old wooden houses. Early houses were built without foundations on to a “mud sill”, which Ed says was usually in fact a pile of stones. They were single-skinned wooden structures, mostly without insulation. Later the inside walls would be lined with newspaper, and then given an indoor skin of drywalling.

When later we meet Marcia Martinek of the newspaper she confirms this: “People doing up their houses often call us to say they’ve found very old copies of the Herald Democrat lining the wall cavities.”

The early houses were heated by stoves burning either wood or coal. I think of Martha and try to imagine surviving in a frozen town in a small, uninsulated wooden cabin shared with three great men and a baby, who presumably needed at least half a dozen nappies handwashed – and dried – every day. I’ve hung out clothes in freezing temperatures on a line in England and picked them in later, frozen stiff. All the washing must have been hung on to some kind of drying frame over the stove, where it would have dripped and steamed, making the room muggy and causing the small windows to run with condensation.

After breakfast Sarah and I bundle up and walk up to Harrison Avenue. I need gloves. The ones I eventually buy come from the Leadville Trail 100 store. This is the headquarters of a series of annual mountain races – foot and cycle – that *start* at Leadville and then go up. The altitude is a killer – just walking up a slight slope has us panting. Yet Capetonian Ryan

Sandes won the 2011 Leadville 100 ultramarathon, a 100 mile race that sees participants tackle the 12 620ft Hope Pass at the 40 mile mark, go up and over for 10 miles, then turn around and come back. There is a 30-hour cut-off, and most winners complete the course in the dark, even though the race is held in August when days are long. The race website describes it as “the race across the sky” and “altitude with attitude”.

Forget running over Hope Pass – at 10 000ft we can feel the altitude even walking along the level. Every now and then I need to interrupt my breathing with an extra deep breath. Sarah says: “Oh good, I thought it was just me.”

In a fossils and rock shop in Harrison Avenue we talk to the elderly proprietor who says she’s lived in Leadville all her life. “I do have some trouble breathing these days, and I’m on oxygen at night,” she says. “Doctors tell me I should move down the mountain, but this is my home, and my family are all here. I’m not going anywhere.”

Leadville’s the sort of place where the town guide carries an ad for “Cloud City Medical – Specialising in high altitude oxygen. Avail 24hrs/day. Daily rates.”

Later we meet Ray Stamps, who has been kind enough to open the Heritage Museum for us – it’s usually closed in winter. The president of the Lake County Civic Centre Association, he’s a retired miner himself, spending his career at the Climax molybdenum mine about 13 miles outside Leadville. Molybdenum, a mineral used primarily to harden steel, saved Leadville when the silver ran out.

Ray pulls up outside the museum in a bakkie and walks carefully towards us. He’s a bird-like man, and clear plastic tubes feed each nostril, running from a portable oxygen cylinder he carries in a back-pack. Later, sitting at the museum’s reception desk, he plugs his tubes into a more substantial tank behind his chair.

He too should leave Leadville, he tells us, but his grandchildren are there. It’s home, altitude and all.

Later, when we walk up the slight slope at the end of Harrison Avenue to the big US Mining Museum and the town library, Sarah and I are both breathing hard.

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That evening we meet Marcia Martinek of the Leadville Herald Democrat – now a weekly – at the newspaper offices in Harrison Avenue. She’s a small, sharp woman with a good sense of humour, who runs the newspaper with the help of copy editor Carol Werckman and a single reporter.

Marcia and Carol, a warm blonde who lives in Leadville with her three daughters, take us to dinner at Quincy’s, a restaurant further down Harrison Avenue. Quincy’s feels like

a Wild West eating place – it has wooden walls, eating booths, and a simple menu: fillet steak or prime rib. The only choices are how you like it done, and whether you want fries or baked potatoes.

Both Sarah and I live at sea level, so we listen wide-eyed to their stories of the delights and otherwise of living two miles high; how tubs of yoghurt can explode when broached; how packets of chips burst, how food and tea and coffee tend to be cool – we’ve noticed this – because water boils at a lower temperature at altitude; and how the very young and old struggle to breathe.

We’re also told that if you want to exert yourself at altitude there are two approaches: you either arrive and immediately do what ever it is you want to do, like run the Leadville 100, or you acclimatise for a substantial period, say six weeks. Both work – what does not, they say, is to acclimatise for just a fortnight or so. I have no idea why that should be.

One of the things you don’t do in Leadville anymore, unless you are careless or caught short, is have a baby.

“Women go down the mountain to give birth, to Frisco which is about 35 miles away but a 1000ft lower,” says Marcia. “Afterwards the babies are usually put on oxygen at night for their first year.”

I think of Martha and her two babies born at home, in their little house in East Third Street, the thin dry air heated by just a single stove, in a town where snow was possible in every single month of the year, and the permafrost was just a few feet down.¹² Two babies born to a woman who was no longer in her first flush – she was 34 when Katie was born, 36 when Ethel came along – and both born when snow would have been still thick on the ground.

My mother Thora says Martha was not a cuddly granny. Fond, but not the rocking chair sort. And Ethel would tell the story of how Martha nearly gave her away as an infant. Pregnant for the second time in Leadville, she had a childless friend desperate for a baby. Martha told her that should her new baby be another girl, she could have her. Did the other woman pray for nine long months that it would be a girl? In any case, she was, and little Ethel May was born on March 24, 1886. In later years Martha would often say: “It’s lucky babies come with a lot of love.” Perhaps this was behind her change of heart – or maybe William put his foot down.

“So when the woman came around to claim me, mother said no,” said Ethel. “She’d decided to keep me for herself.”

It was a wise choice – mother and daughter remained close all Martha’s life.

The next day Sarah and I go looking for the family houses. I've already realised that the better houses are on the west side of Harrison Avenue, where Ed and Peri live. The east side slopes up towards the Mosquito Range where the mines were. East Third is almost a mile long, uphill all the way, and 516 is near the top – a real slog with two small children. I hope Martha had a buggy. The timber-sided houses up there tend to be small. Many of the old houses are gone, but while some of the remainder are pretty and well-maintained, others look sad and neglected, with rusting cars and trucks in the back. There is no house at 516, just some rubble, but standing on the lot and looking back down to Leadville there is a stunning view of the town in the dip and Mounts Massive and Elbert on the horizon beyond. Across the road is Harry and Irma's house, still lived in, trim and neat, with a bakkie in the driveway.

We find William and Martha's second Leadville home, at 808 East Sixth Street, also on the east side of town but a better address. It's painted cream, with a protective black dog lying in front who barks when I approach. A woman emerges but seems unimpressed when I tell her my grandmother was probably born there.

"Oh yes," she says vaguely. "The front part is the original building, on a mud sill, the back is new." She doesn't invite us in. Sarah takes a picture of me in front of the house, and the dog is still barking when we drive off.

Neither William and Martha nor Harry stayed long in Leadville, but Thomas did.

Martha was the fourth of six children, whose father Richard, a miner, died when she was a small child. The youngest was Thomas, four years younger than Martha. In the 1871 British census Martha is 20 and Thomas 16, and both were described as "assistants in tin" in the Canonstown area. Ten years later, in 1881, Martha at 30 was still unmarried, working as a "general servant", but there was no mention of Thomas. Had he already gone to America, and did Martha join him there, hoping for adventure and perhaps a husband and home of her own?

Or had she already met William in Cornwall and decided to join him, using Thomas as cover and a chaperone? You can't check the early US immigration records, because they were all destroyed in a fire at Ellis Island in New York in 1897.

But from shipping lists we know a Thomas Jennings arrived in New York from England aboard the *Erin* in 1880, and a Martha Jennings arrived in New York from Liverpool aboard the White Star line's *Britannic* in mid September 1883.

As for William, the record of his journey to the Americas is characteristically silent. Names like Thomas and Martha Jennings are difficult to pin down because they are so

common; unusual names like Cogeem, which have more than a dozen different spellings, are difficult too.

Certainly William, Martha and Harry were in Leadville on May 10 1884, because that was the day William and Martha were married. One C A Brooks, a “Minister of the Gospel”, did the honours or, in the words of their marriage certificate, solemnised the rites of Matrimony between Mr William Cogeem of Leadville in the County of Lake of the State of Colorado and Miss Martha Jennings, also of Leadville, in the presence of Harry Cogeem and one Mary Ann Jeffry.

In October 1885, Thomas married Emily A Buckett, and in July the following year Harry married Irma Turnbull. This was obviously a much more festive affair than William and Martha’s wedding; the marriage certificate reports that they married “in the presence of the Bride’s Parents and Many Witnesses”. The Turnbolls were not miners – Irma’s father Robert, a Canadian, was a storekeeper – but the family had followed miners’ fortunes from California to the Rockies.

Thomas and Emily Jennings stayed in Leadville for the rest of their lives, producing two children, Everett and Emily. Thomas worked for Ibex Mining Co, and died in 1930, Emily in 1935. Both Thomas and Emily senior, along with Everett, are buried in the town’s Evergreen Cemetery.

Part Five – A living tomb

The first Leadville City Directory was published in 1879; by 1885 the directory’s introduction was referring to “the growth and prosperity of the most enterprising city on the continent”. The directory reported that mining experts were satisfied “that there are as good bodies of mineral, undiscovered, in the immediate vicinity of Leadville and Lake County, as ever have been touched by the pick and shovel of the miner... we feel justified in predicting for the great ‘Carbonate Camp’, in the near future, a larger bullion yield than ever before.”¹³

On a schoolmarmish note, the directory pointed out that all names were arranged in strict alphabetical order “according to the manner in which they are *spelled*, and not as they are *pronounced*”.

In 1887 the directory praised the fact that the city’s buildings had assumed:

...a more substantial character, and during the past year some of the finest business blocks have been erected, and others are now in progress that will add much to the beauty of our business thoroughfares; besides, we find much improvement among the residences, both

in the erection of new as well as the re-modeling of the old style cabin into the neat and homelike cottage, which seems to say to the observer that we are satisfied with our mountain home and have decided to stay.¹⁴

It added that the number of names – the heads of the families – had increased to more than 7 700, “which, to use the very lowest estimate, would give us a population of between fifteen and sixteen thousand inhabitants”.

So was the 1885 directory right in predicting an enormous bullion yield from the “great Carbonate Camp”? As early as 1880 Leadville’s mines were producing minerals worth \$15million a year. But much more was to come. Counting molybdenum, for which a use had not been found in the 1880s, in the century between 1880 and 1980 Lake County produced minerals including gold, silver, lead, zinc and copper worth more than a billion dollars.

But as Gilliam Klucas points out in *Leadville – the struggle to revive an American town*, only a fraction of that stayed in Leadville. “With the exception of Horace Tabor’s hotel and opera house, the money was sent off to Denver, Chicago, New York. Leadville was left with the environmental destruction.”¹⁵

Leadville’s mining district was astonishing in its complexity: surveys have identified more than 1 300 mine shafts, 150 tunnels, 1 600 prospecting holes and hundreds of other diggings. There is said to be a total underground network of several hundred miles.¹⁶

East Third Street ran up into Carbonate Hill, the home of many mines including the irreverently named R A M. The miners said the mine was on such a steep slope they had to slide down to the road in Stray Horse Gulch on their backsides, and wanted to name their place of work the Ragged Ass Mine. But the recorder refused, and registered it by its acronym.¹⁷ Fryer Hill, reached by East Seventh Street, was vastly rich, and the home of mines including the Little Pittsburg, the Chrysolite and the Matchless – the mine Oscar Wilde visited – that made Horace Tabor’s fortune.

Some Leadville men made a mint, but they were the exception. Three dollars a day for a 10-hour shift was the norm: most miners’ days were long, dark, often wet, and dangerous.

A newspaper description of a mine accident in June 1886 gives a snapshot view of the difficulties and terrors of life for miners – and their families.

At 8am on a Wednesday, a stope caved in about 100 metres down on the Colonel Sellers mine, killing four miners. The Daily Herald Democrat reported that in the four hours after the collapse, between 600 and 700 tons of earth were removed by frantic rescuers, and they still had not reached the bodies.

The mine superintendent, Mr Drummond, said the earth was sifting down as fast as the men could remove it. Sixty men – all that could be employed in the limited space – were working in shifts, but he did not expect to reach the four miners before Thursday night or Friday morning.

The four men were not necessarily dead at the time of going to press, the newspaper reported, but added: "...the embankment by which they are shut out from the shaft consists entirely of loose earth, and unless they were killed when the earth first fell upon them, they may continue to live until the 'cave-in' assumes sufficient proportions to shut off the air which now passes to them in their living tomb".

The men had been at work for only around 30 minutes when "there was a loud report" which brought Drummond running. Although he was not more than 10 feet from the men, all he could see was a bank of earth.

The accident was believed to be caused by a creek running into the workings which had undermined the earth on which the stope's timbering rested.

Three of the miners were members of the same 15-strong Austrian family, known to be hard workers "with an enviable reputation for honesty, sobriety and fair dealing". They were brothers Joe and Nicholas Pretti, and their cousin Louis. Joe, 37, and Louis, 35, were both married, while Nick, 28, was single but engaged to be married. All three were insured. The fourth victim was one J H Hitchcock, "a stranger in the camp, and not insured at all".

As the news of the accident spread across the mining district, miners hurried to the head of Colonel Sellers No 2 shaft to hear the news first-hand.

The reporter interviewed W F Patrick, the mine's general manager, asking him if there was a chance the men might be found alive. He replied that his hopes were fading. "While the earth and debris which keeps us from rescuing them is yet loose it is getting more compact every moment, and even if they were alive after the accident first happened they have been probably smothered to death before this."

At this point, the newspaper reported, Patrick was so overcome that his words choked him.

The indefatigable reporter left no angle uncovered. While the miners waited at the mouth of the shaft, he hurried off to the home of Louis Pretti at Oro.

The wife of Louis is quite a young woman and she sat in a rocking chair with her babe in her arms and moaned and cried piteously as she swayed her body to and fro. She would hear no word of comfort for she was told that it was possible that her husband could be taken out of his living tomb alive. 'Oh! He is dead. I know he is

dead. There is no use trying to deceive me. If he was not dead already you could have brought him before this’.

In case the readers had not grasped the horror of the situation, the reporter spelt it out. He encouraged them to imagine themselves in an airtight stone cell “except that it is ventilated through the bars of a small door about five feet high... Imagine at the same time... that sand and dirt is drifting into the door a little at a time, but surely and slowly filling the cell from the bottom. Imagine yourself and three companions closely imprisoned in the cell described, gasping for air, with the knowledge that 150 strong arms were endeavouring to cut through the falling mountain of sand which is rushing past your cell door like a torrent and rapidly filling the only avenue of escape between you and your rescuers....Sure, horrible and inscrutable is the death which these four miners imprisoned in their living tomb are about to meet.”¹⁸

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Unlike Aspen, which is just over the Sawatch mountains via the spectacular Independence Pass, Leadville’s mineral wealth lasted well into the 20th century. Aspen, now a glitzy ski resort with property prices that are among the highest in the United States¹⁹, was also a silver rush town in the early 1880s, but its fortunes did not recover from the slump of 1893. After a long period of decline, it reinvented itself after World War 2 as a ski resort, its glorious mountain slopes looming over the town.

Leadville did not have the same option – although surrounded by mountains the nearest suitable ski slope is at Copper Mountain, about 40km away. Besides, when the silver was mined out in the old Leadville mining district, the town had another ace up its sleeve: molybdenum. This is a gleaming pewter-coloured mineral first used by the Germans in World War 1 to strengthen the steel of their tanks. It is also found in lubricants, fertilisers and paint. As far back as the 1870s prospectors working the hills above and around Leadville had known of it, but at that stage no one knew what to do with it. In 1918 the Climax mine opened just 20 km north of Leadville, right on the Continental Divide, providing 80 percent of the world’s total output, worth around \$4billion. For about 70 years molybdenum kept Leadville viable, or in the words of Christopher McDougall, author of *Born to Run*, “eight out of every ten workers in Leadville punched the clock at Climax, and the few who didn’t depended on the ones who did.”²⁰

In 1982 the mine closed – after the Cold War there wasn’t much call for molybdenum – and Leadville plunged into depression. Thousands of people left town.

The answer for Leadville lay in tourism, but not of the sparkly Aspen sort. Today you can climb and hike the mountain trails, and go camping, fishing and picnicking at places like Turquoise Lake and Twin Lakes. There is a heritage trail, including tours of Baby Doe's cabin at the Matchless mine and the Tabor Opera House, a summer flowers train ride, and the United States's National Mining Hall of Fame and Museum. There are a couple of coffee shops, some restaurants, hotels and guest houses. And there is the Leadville 100, the "race across the sky" whose starting line is "twice as high as the altitude where planes pressurise their cabins, and from there you only go up".²¹ Now a series of races over the summer, that includes mountain biking, it brings in around \$15million dollars a year to the city, according to an article in the Denver Post in April 2013.

In 2012 the Climax mine reopened, employing around 400 people.

The gritty old mining town is on the up, but it is still not an easy place to be. Snow closes the short cut to Aspen over Independence Pass from early November to May because of snow. And the weather and altitude means Leadville is simply not suitable for many people. It certainly wasn't for Martha Cogeon. William's name is in the Leadville Directory for three years – for 1885, 1886 and 1887 – and then disappears. Martha had had enough of icy foreign parts by then; she wanted to go home.

Part Six – What happened to Harry?

One day, curious as to how Harry, William's brother, fitted into the family and what became of him, I start browsing online. The internet has been a boon to genealogists and family historians since 1995. There are a host of sites for family research, from the ubiquitous, expensive and ultimately unavoidable Ancestry.com to the Mormon Church's familysearch.org, which enables you to find and identify your ancestors so that you can guarantee their salvation by converting them, posthumously, to the Mormon faith.

Unlike William, Harry married an American woman and that made all the difference. While William and Martha had no fundamental connection to the United States and went home, Harry's wife Irma Turnbull was American through and through, and he stayed in the country for the rest of his life.

Harry has been a bit of an enigma. If William was difficult to pin down, Harry was worse. In my frustrated search for William I eventually contacted a Manx genealogist, Carole Carine, who drew up William's family tree for me. This showed that William was the youngest of 11 children, born when his mother Catherine was about 40 years old. Yet the

1895 American census, taken when William was about 35, describes Harry, 23, as William's brother. That makes Harry 12 years younger than William, presumably born when Catherine was around 54. It doesn't add up.

The Manx census for 1871 is unequivocal: there is Harry, just seven and described as a son, living with Catherine, 60, and William, 19. But the 1881 census, taken after William had left the island provides the key: Harry, now 17 and a lead miner himself, is listed as having the surname "Knowles", and is Catherine's "adopted son".

So who is Harry Knowles? Is he related by blood – is he what my mother would call a come-by-chance, a relative's illegitimate son taken under Catherine's wing? And why is he called Cogein when he goes to America? I fall back on Carole Carine again – can she throw any light on Harry's origins?

She can, partly. She finds a record of Harry's baptism on the Isle of Man in November 1863, and his mother's name, Hannah Knowles. There is no mention of a father. Using a variety of sources including parish records, Carine discovers Hannah is the daughter of a Scot, Henry Knowles, and his young wife, another Hannah, who appeared to have been just 18 when they married. They had six children, one every two years, and Hannah junior – also known as Annie – was the second youngest. So many children in such a short period was too much for Hannah senior, and she died in 1844, aged just 28.

Henry Knowles had a position of some authority – he was the underground overseer of Laxey mines – but he liked a drink. He had been drinking on a winter Saturday in January 1845, when at 11pm he went to visit a friend called Dover. Dover lived down Laxey Glen, through which the Laxey River runs down to the sea.

In the package of papers sent from the island Carine includes a cutting from the Manx Sun dated January 7, 1845:

He continued there [at Dover's] until after midnight, when he left to return home, which, we regret to add, he never reached. We are not surprised that he did not, considering the state of the bridges he had to cross on his way thither, which are unsafe for a sober man to cross, even in day-light. It can be no wonder then that a man, under the influence of intoxicating liquors, during a dismally dark night, and with the river swoln [sic] into a torrent by the descending rain, should become a victim to the insecurity of these bridges...

Henry Knowles either crossed the "unsafe" cart bridge near Dover's house, "or the still more dangerous foot bridge" higher up the glen. A servant girl living near the cart bridge

heard “a cry of distress, as from the river, about one o’clock on Sunday morning”, but the newspaper says that judging from the state of Knowles’s body, it would seem he had been tumbled by the river for some distance, so he might have fallen from the footbridge. An inquest jury returned a verdict of “found drowned”.

In a fine example of editorialising the newspaper goes on: “The deceased has left a family of six children, of course wholly unprovided for, the eldest of whom is but fourteen years of age. Deceased’s wife died about a year ago.”

Annie was just six years old.

Census reports show that Annie and probably her brother John were taken in by their uncle, Richard Knowles. By 1861 Annie, then about 22, was working as a housemaid in the home of Captain Richard Rowe, manager of the Great Laxey Mine. It was a substantial household – the Rowes employed a cook, a housemaid, a kitchen maid, a gardener and three “nurses” including a wetnurse for the youngest of the nine children.

Rowe himself was a Cornishman from the St Agnes area, and was appointed to the Laxey mine because of his mining experience. Rowe and the self-taught Manx engineer Robert Casement were given the task of keeping the lower levels of the Laxey mine dry, and their solution was the design and building of the Lady Isabella waterwheel to drive the mine pumps.

Annie didn’t keep her job with the Rowes for very long. In February 1863 she fell pregnant, and her baby, Harry, was born in November that year. The father is not mentioned in the parish records. In her search, Carine checked the “Presentments” for the relevant period, and writes: “A young woman would be ‘presented’ before the Ecclesiastical Court if she was found to be unmarried and pregnant, or after the child was born, in order for her to make known the father of her child. He could then be compelled to provide for the baby (and the girl’s lying-in fees) until it could fend for itself. Not every girl did give away the father’s name, and often the couple did marry later. Neither happened to Hannah.”

The father could have been anyone – Annie was living in a village full of young miners. The Rowes’ gardener, William Clague, was the same age as Annie – perhaps romance blossomed at the kitchen table over cups of tea. But it seems more likely that the father was one of William Cogein’s older brothers – John, 26 in 1861, Thomas, 23, or Charles, 19 and still living at home with his parents and young William.

Carine suggests the reason Annie was not “presented” before the Ecclesiastical Court was that either the father paid for baby Harry’s keep, or that Harry was adopted by Catherine Cogein because he was her illegitimate grandson, or simply because she was a kind soul

willing to take on a foundling. Presumably as a single mother Annie would have had to go back to work after the baby was born, and seeing that Annie no longer had parents of her own to care for him, Catherine took on the baby.

But to 21st century eyes, what happened next is strange. In 1866, when baby Harry was about two and a half, Annie married a widower called William Dempsey, a coach painter. Dempsey had a son, also called William, who was just three. You might have thought this gave Annie the chance to have her own toddler son at home with her, but no. Harry remained with the Cogeens, and Annie brought up young William Dempsey as her own, as well as the two children she and Dempsey had together, Mary Ann and Richard.

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So why did Harry Knowles change his name from Knowles to Cogeens when he went to join William in America? Perhaps it had something to do with immigration rules; while they were more relaxed than they are today, it presumably helped, when you were joining your brother to have the same surname.

Tracing Harry's life in the US, I discover his eldest daughter Nellie, full name Cornelia Ellen, married Jesse LeRoy Seifried in Ionia, Michigan, in August 1904. He was 19, she just 17. Two years later Lila, her sister, was also married in Michigan. Gold was mined in Ionia County between 1880 and 1897 – perhaps Harry found work there.

That more or less seems to wrap up Harry's life. Happily married to Irma Turnbull, two lovely daughters, and a life in Michigan. As it turns out, that's not how it went.

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When I discover the surname of Nellie's husband, I decide to do a bit more fossicking about on the internet. Perhaps I can trace Nellie and Jesse LeRoy's children and grandchildren, and find a living American cousin.

I type "Seifried Ionia Michigan" into Google. Up pops a 10-year-old message headed "Seifried Family" posted by one Kristin A Hussein. This is a surprise – the family has been Methodist until now, while Hussein seems to take at least one branch in whole different direction.

Hussein's post reads: "I am looking for any information relating to the ancestors of Jesse LeRoy (Roy) Seifried, who was born on March 26 1886 (Ionia, Michigan?) and died August 1962. He married Cornelia Ellen Cogeens in Michigan and they moved to Montana in 1909."

She lists the names of Nellie and LeRoy's four children, Velma, Helen, Esther and Harry Gene, saying she is descended from Velma.

There's a response to her message from a David Seifried, dated January 26 1999: "You asked for information re Harry G Seifried. He was my father. He passed away just two months ago in San Bernardino, California. I would love to know a lot more if you have information... Please get back to me. Now that my dad is gone, I don't have any family information sources."

Well, I think, I have some facts for David Seifried. I bung a post on to the same message board and hope for a response. Nothing happens. I do a search on David Seifried, and find out that he grew up in San Bernardino, California, and is a little older than I am, but nothing else. A dead end.

Fully two years later, in January 2013, I get an email. A woman called Ari Seifried-Allen writes that she is David Seifried's daughter, she saw my post, and would I like to be in touch with her dad?

The joy of email means there is no waiting for snailmail. David Seifried writes the next day from Atlanta, Georgia, to say he had been doing some family research years previously, but had run into a brick wall.

"I had heard growing up that some of our ancestors were from the Isle of Man. I still haven't found out if that is just family lore or something that is actually true. ... If you have anything on the Isle of Man connection I would love to know about it. I have a Cogeen pic or two. On a side note, the wedding ring my wife Jill wears belonged to great (or great, great) grandmother Cogeen."

He adds he had been in touch with Kristin Hussein, a distant cousin who turned out to have been married to a Jordanian. "She actually had hand-written poetry from Harry Cogeen and some pix of my side of the family taken in Montana and other places." But Hussein did not keep up the correspondence with David.

It dawns on me: Nellie's only son was called Harry Gene. You have to know that Cogeen is pronounced CoJEEN to realise that Nellie named her baby boy after her dad.

But David saves his bombshell for his next email. Thanking me for the information that Harry's original surname was Knowles, he adds: "The Colorado/Leadville connection I knew about. In fact family lore has it that H Cogene (yet another variant which is how my family spelled it) met his demise by being thrown down a mine shaft by angry miners. It seems that there was a labor dispute and Cogene was part of management. I was told that H Cogene was decapitated in the fall down the shaft."

After years of research into William and his quiet, self-effacing life, I finally have some dramatic information on the Cogeens. And I know that if Harry died as David has

described, it will have been reported in the local newspapers. Now it's just a matter of finding where, when and exactly what.

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In the early 1890s a militant labour union known as the Western Federation of Miners was gaining support in the Rocky Mountains. In 1894 it led what was known as the Cripple Creek miners' strike, a riotous five-month affair that resulted in a famous victory for the miners and hugely increased worker support for itself.

The discovery of gold in Cripple Creek, a valley high in the Rockies, in 1890 prompted the last major gold rush in Colorado. By the time of the 1894 labour strike, more than 150 mines were operating in the area.

A serious economic depression in 1893, the result of the repeal of the Sherman Silver Purchase Act, led to a surplus of silver miners who flooded to the gold mines of Cripple Creek. With hungry men desperate for work, the mine owners announced an extension of the working day from eight hours to 10 hours for the same \$3 a day wage. After negotiations, the owners agreed to retain the eight-hour day, but said they would drop the daily wage to \$2.50. The miners walked out on February 7 1894.

Accounts of the strike are hair-raising. By the time it ended on June 11, a miner and a sheriff's deputy had been killed, the shaft house and boiler of the Strong mine near Victor had been blown up, and the state governor Davis T Waite and the union leader had had to flee a negotiation meeting in Colorado Springs to avoid a lynching. It also made American labour history as the only time the state militia was called out in support of striking miners. But the strikers won their point: they returned to an eight-hour day for \$3 – precisely their position when the four-month strike began.

The miners' victory was a major boost for the Western Federation of Miners, which saw almost every worker in the Cripple Creek area signed up with a union. But two years later the federation did not have similar victory in the labour dispute with mine owners in Leadville in 1896. This time the miners lost and the strike left a legacy: the Western Federation of Miners was radicalised, its members deciding that workers would have to overturn the system if they were ever to receive a fair deal. These attitudes had a lot to do with the serious strikes of 1903/1904 that became known as the Colorado Labor Wars.

In 1900 miners made up just over 13 percent of Colorado's work force, down from almost 30 percent a decade earlier. In that year, when William and Martha and their girls were in Natal, refugees from the Boer War, Harry and his family were living in Canon City, not far from Cripple Creek. Harry was 37 at the time, and described in the 1900 US Federal

Census as a “miner (mineral)”. His and Irma’s children were Nellie (Cornelia), then 12, Lila, then 10, and little Marion, who was six.

The Colorado Labor Wars essentially sprang from the eight-hour shift agreement that had ended the 1894 strike. Millworkers in Colorado City and in Canon City processed the ore produced in Cripple Creek, and in the early 1900s the Western Federation of Miners declared that, since mining and smelting were linked trades, the state’s smelter workers, like the miners, should see their shift reduced to eight hours too.

With the backing of the state government, the mill owners refused to negotiate, and by February 1903, a total of 3 500 miners from the Cripple Creek district were on strike. By September that year nearly a thousand state troops were guarding the Cripple Creek mines, which had continued operating, thanks to replacement miners who were recruited from outside the district. One of them was from Canon City – Harry Cogeen.

Over the winter of 1903-1904 Harry was working near a town called Victor on a mine known as Stratton’s Independence Mine, so rich it was once described as being “like an underground bank”. The mine was named after its founder, Winfield Scott Stratton, a former carpenter who’d gone to the Cripple Creek area and in 1891 struck gold on Pike’s Peak. In 1900 Stratton sold the mine to a British company, the Venture Corporation of London, for \$10million, and died two years later.

At the end of his shift on the night of January 25, just before 2.30am, Harry stepped into the roofless cage with 15 co-workers to go back up to the surface. Many newspapers reported what happened next, including the St Paul Globe of Minnesota on January 27, 1904:

In the main shaft of the mine sixteen men were being hoisted in the cage from the sixth, seventh and eighth levels. When the cage got to the surface in the shafthouse the engineer was unable to stop the engine and the cage with its load of human freight was drawn up into the gallows frame [headgear], where it became lodged temporarily. The strain on the cable caused it to part, releasing the cage, which went down the shaft at terrific momentum. Two of the occupants of the cage, however, had become entangled with the timber rods near the top of the gallows frame and one of them, L P Jackson, was crushed to death by the sheave wheel falling upon him. The other, James Bullbek, had a marvelous escape from death, but received painful injuries. He was rescued from his perilous position by men in the shafthouse.

The shift boss and a number of miners went down into the mine through another compartment of the shaft and found that all the men who started with the cage on its wild flight of 1 500 feet to the bottom of the shaft were dead, their bodies being

scattered at the stations at different points. Their arms and bodies were mangled, their heads crushed and their clothing stripped from their bodies. At the bottom of the shaft stands twenty feet of water, and into this the cage plunged. Some of the miners were carried with the cage into this sump.

Nearly all the men killed had wives and children. Harry Goegen [sic] leaves a wife and three children, who are in Michigan...

Frank Gellese, [sic] engineer in charge of the machinery when the accident occurred, surrendered himself to the military and was locked up in the bull pen. Gellese is a newcomer in the district, but is said to have been strongly recommended as a competent engineer.

Most of the victims of the accident were strangers in the district, having come from the Coeur d'Alenes, the Lake Superior mines and other districts to take the places of strikers in Cripple Creek.

At a late hour tonight the only body that could be identified had been taken from the shaft. It was that of Harry Goegen, and was terribly mutilated.

A day or so later the Denver Post reported the accident in even more graphic terms:

All of the bodies of the victims of the terrible Stratton Independence accident at Victor have been recovered and now lie mutilated, unrecognisable, disembowelled and dismembered, with limbs severed, heads decapitated, a horrible mass of human flesh, on two rows of benches in the carpenter shop just outside the big shaft house. One man's head was driven into his chest, and only a tuft of hair level with his shoulders indicated that he had a skull. Not one of the fourteen that went down in the ill fated cage, excepting Edward Twiggs, can be recognised, and his arms and legs are broken and the back of his skull is crushed like an egg-shell.

Harry Cogeen can be distinguished, although the top of his head, from his eyes up, is gone.

There's the detail at the basis of the Seifried family story that Harry had been decapitated in his fatal fall down a mine. But the belief that he was "in management" was wrong – poor Harry, needing to support his wife and daughters, was a scab.

On January 30 the Eagle County Times, a newspaper based in Red Cliff, Colorado, not far from Gilman and Leadville, wrote a special piece about two of the victims who had lived in the area, one of them Harry Cogean.

In the terrible accident at the Independence mine at Victor last Tuesday... our people had more than the usual interest aroused by such disaster, from the fact that among the victims were two well known heroes, Messrs Joseph Smitherum and Harry Cogean, formerly and for years citizens of this district....

Harry Cogean and family were also residents of the hill formerly and moved to Victor some years ago, where they have since lived. Harry was a genial, sociable soul, and honourable, trustworthy and industrious. He was a favourite with all. He is a son-in-law of Mr and Mrs R Turnbull of this place...

A coroner's jury was set up immediately to look into the causes of the disaster. Frank Gillice, the engineer hoisting the cage, told the jury that when he tried to make "the customary stop" at the 200ft level, the brakes would not work. "Further tests, he said, showed that the steam brake would not work either, and then he learned that this brake was not attached. He also said that the supply of air in the air brake was low."²²

But the Colorado mine commissioner disagreed. Lyman White told the inquest that the machinery was in "perfect condition, so far as could be ascertained, and that all of the safety appliances required by law were provided and were all in good working order. No light was thrown upon the cause of the hoist getting beyond the control of the engineer".²³

The coroner's jury disagreed. On January 31 several newspapers reported the inquest jury's verdict:

We, the jury, find that the deceased, lying there dead, came to their end in the Stratton's Independence, Limited, mine, on Tuesday morning, January 26th, through Frank T Gillice's losing control of the engine, there in use, and pulling the cage into the sheave wheel, thereby parting the cable and precipitating the cage, loaded with the above named men, down the shaft, to their death. And we further find, if the management had not neglected the usual precautions, the said casualty might have been reduced, if not avoided.

The "usual precautions" not taken included the fact that there was no banksman [the man who controlled access to the cage] stationed at the top of the shaft; there was no safety device on the cables to prevent their overwinding; men were loaded and unloaded without

placing the cage on chairs; and most damningly, the disc brakes on the hoisting engine “were detached from their usual positions and therefore useless”.

The Western Federation of Miners backed the coroner’s findings, but management claimed the accident had been caused by union members tampering with the hoist. While this seems unlikely, seeing the mine was guarded by the military, it didn’t stop 200 replacement miners from walking out of their jobs for fear of their lives.

In a pamphlet published in Denver in 1904, the federation accused the mine owners of “murdering” a total of 851 men in less than four years, including the 15 men killed at Stratton’s Independence Mine, listing them by name.²⁴

It was the end for Harry, but not the end of the strike, which became much more violent. In June 1904, five months after Harry’s death, 13 non-union members were killed in an explosion at the Independence railway station or “depot”, while another six were maimed. It was just after a change of shifts, and around 60 miners were waiting to catch the train home to Victor and Cripple Creek. The cause has never been definitively proved but both the mine owners and the unionists have been accused.

The explosion marked the end of the Western Federation of Miners. In her book *All that Glitters*, about the strike, Elizabeth Jameson wrote: “Historians continue to debate who blew up the Independence Depot, and who paid them to do so.”²⁵

So was the incident that killed Harry Coge the work of union members affiliated to the Western Federation of Miners – or anyone else? Probably not. In early August 1904, two months after the Independence station explosion, the *Daily Journal of Telluride* quoted MJ McCarthy, State mine inspector for the area. Describing the station explosion as “brutal, fiendish, wholesale murder”, he added: “I believe the Independence mine disaster, in which fifteen men were dropped 1 400 feet to death, was an accident. I know there are those who do not agree with me, but I am giving my honest opinion.”

But the deaths of Harry and his 14 colleagues who died that wintry night in January 1904 might never have happened without the atmosphere of suspicion and hostility between mine owners and the unions. Despite his reported experience, engineer Frank Gillice was new to the mine and was unaware that certain safety precautions had been skimped. As the *Aspen Democrat* reported a couple of days after the cage plunge: “This ...shows only too plainly that men’s lives are not worth much when the great principle of breaking the union is the uppermost thought of the mine owners in the Cripple Creek district.”

I wrote this chapter against a background of regular reports in the South African media of the Farlam Commission of inquiry into the deaths of 34 striking Marikana platinum

miners in Rustenburg in 2012. More than a century after the Colorado Labor Wars union conflict with mine owners is still a potent force for death.

CHAPTER TWO – LEAD

Interlude: Laxey, Isle of Man – March 1879

One dark icy morning in early March, William Cogeen and his adopted brother Harry Knowles trudged up Laxey Glen in good time for the 7am shift. The sky was clear, which accounted for the morning frost, and the stars were glittering. William once again tried to point out the Great Bear to Harry.

“Oh, go on Will,” jeered Harry. “I can see no bear there and I don’t think you can either. I think you’re making it all up. They’re just stars, boy. But they do look pretty.”

They reached the Washing Floors below the Ramsey Road, where Harry, at 15 too young to go down the mine, was due to peel off for his shift sorting crushed ore, and then barrowing the waste rock to the spoilheaps. Underground work was hard, but at least it was warm, thought William. Winter and early spring on the Washing Floors, which were out in the open, could be wet and bitter.

“I’ll be joining you in the warm underground soon, Will,” Harry shouted as his brother continued his walk up the glen towards the great Lady Isabella water wheel which spun silently in the darkness, pumping water from the lowest levels of the Great Laxey lead mine.

Neither Henry nor William could have dreamed, that ordinary winter morning, that they would never work underground at Laxey together.

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Up in the store house, where William had gone to collect the candles, fuses and dynamite for his group’s shift, management had posted a notice. Since the price of lead was falling, affecting the mine’s profitability, there would be changes to the working conditions.

None of them were to the good of the miners, William thought. Making the morning shift start an hour earlier was hard, especially for the men who had a long walk to the pit head; postponing payday from Friday to Saturday would upset others; but the one that really got the men riled up was the change to how miners and their labourers would be paid. The proposals seemed designed to save the mine owners money and to introduce

friction and resentment among men who relied on each other when working in pitch darkness, save for the light of a candle, hundreds of feet below the earth's surface.

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A strike was called and amid much shouting and many threats, agreed to. William walked home, worrying what it would mean to him and Harry, and to their mother, Catherine. They had no savings, so if the strike dragged on for more than a week or two, life would be very hard.

News of the strike had preceded him, and when he walked into the kitchen Catherine was looking worried.

"You're late for your dinner," she scolded. He knew her fussing was caused by worry. His father had never recovered from losing the farm at Ballig, and somehow every change in Catherine's life in the past 30 or so years had been for the worse.

Harry came in full of excitement. "We'll show'em, boy!" he said. "It's time they knew who they're dealing with."

William looked at him soberly over his pipe. He was not yet 30 but felt infinitely older than his brother. "Harry, you don't know what you're talking about. You don't remember the strike in '72 that caused a lot of hardship hereabouts."

Catherine nodded. It had been four months of scrabbling for enough food to feed the family. There had been vegetables, it was true, because the men had not had much else to do but work in their gardens, and some fish, but little meat. And after a month there had been no flour, no tea and no sugar. She'd had Harry, then eight, and her granddaughter, little Margaret, staying, and soon both had stopped going to school because she didn't have the penny-a-week fee. They had run out of candles and soap, then they had run out of coal, and by the time the strike ended in the October, with winter approaching, they'd all been on the brink of starvation.

"Course I remember the strike," said Harry, his eyes shining. "We stopped going to school and did what we liked. We did get hungry, though."

Catherine put a plate of stew in front of both men, and then sat down at the table in her pinny.

"I don't understand what it all means, Will," she said. "You know that the men almost never win in a strike. This is not good."

“They treat us with contempt, Mother,” he said. “Go back to work ‘like good men’, the boss told us. Who do they think they are?”

“They’re the people who pay you!” she shouted. William looked up, surprised. This was not like her.

“I’m sorry, Mother,” he said, reaching out to pat her arm. “You’re right. But they can’t treat us like children. We’re men, and we do the work of men. We keep this village going, and we certainly keep the bosses and the company going. They’ll rue the day, I tell you.”

Catherine smoothed back her grey hair. “So will we all, I fear.”

University of Cape Town

Part One – Arriving on the Isle of Man

Sarah and I are standing on the quayside in Douglas on the Isle of Man, next to the roll-on, roll-off ferry that has brought us across the Irish Sea from Liverpool. Suddenly there is a cacophony of roars, and dozens of motorcycles come barrelling from the maw of the ship and drive off down the quay.

I'm fumbling for my camera, but I miss the shot of the bikes with the Manannan ferry behind them. This turns out not to matter as the camera is stolen soon after returning to Cape Town, and all the pictures I take on this private heritage tour are lost anyway.

The sight and sound of the bikes is impressive. What Sarah and I don't know, but find out when we reach the tourist office beside the quay, is that it's Grand Prix race fortnight, and almost all the accommodation on the island is full.

We don't know much about the island, other than what everyone knows: they have the famous TT motorcycle races there, they have a strange three-legged symbol that looks unfortunately like a swastika and even more like the Afrikaner Weerstandsbeweging symbol; they have one of the biggest working water wheels in the northern hemisphere, or maybe the world; and Jeremy Clarkson of Top Gear and South Africa's own IT billionaire, Mark Shuttleworth, have houses there. Because the other thing about the Isle of Man is that it's a sort of British tax haven.

I'm here to find evidence of great-grandfather William Cogein, who was born here, and Sarah has joined me, with the proviso that we won't spend too much time poking in around muddy country churchyards.

It's late August and the TT races are held in May-early June, so there's no clash there. It turns out, though, that the island also holds a motorcycle Grand Prix, intended for amateurs rather than professionals, which is almost as famous, and it's held in late August-early September. We've arrived in practice week, along with every biker boy – and girl – in Western Europe. Or so it seems.

Not only is most of the island's accommodation full, we discover there's another layer of complication. The TT and Grand Prix are road races, and the course covers about 60km of mostly country roads, in a big loop from Douglas, the island's capital. Practice is held every evening from 6pm, and the course is then closed to ordinary traffic for around two and a half hours. This means if you're staying inside the loop – and a big chunk of the island is inside the loop – your movements are restricted. Of course if you're staying outside the loop they are too.

The obliging tourist office people eventually find us a room at The Blossoms, a guesthouse on the Douglas promenade, two miles of curving road above the bay, lined for much of it by tall, narrow houses, hotels and guesthouses. The Isle of Man, we discover, has been a tourist destination for over a century, and remains one, thanks in large part to the bikers who flood into town in early and late summer. Tourism fell off during the two world wars, but then visitors of a different sort arrived – Axis internees. In World War 1 most of the 23 000 internees stayed in the Knockaloe camp near Peel on the west of the island, but in World War 2 there were a number of camps, including that on the Douglas seafront which saw the guesthouses occupied by Germans, Austrians, Italians and even Japanese, all barricaded off with barbed wire. At least the holiday landladies had some money coming in.

Like its neighbours, The Blossoms is tall and narrow, just under half way along the seafront and behind a small garden. Motorbikes are parked everywhere. Our room, up on the top floor, does not have a sea view, but does have its own bathroom. The guesthouse is run by a woman and her curly-haired adult son, who spends his winters as an entertainer on cruise ships, and his summers giving his mum a hand. He helps lug our suitcases upstairs and tells us meaningfully that when he travels he doesn't bother with much luggage. "Wear tee-shirts and jeans, throw the teeshirt away when it's dirty and buy a new one." By the time we reach our room, panting, his philosophy is gaining appeal.

We walk 50m or so along the promenade to a Victorian hotel called The Empress, with a glassed-in conservatory overlooking the sea. It's low tide, and as we sip our wine we watch the sky change from cloud to light to pink. People and their dogs are walking along the great sweep of the beach. A man throws a ball for his Jack Russell, and it tears off and brings it back. But then the man stops throwing, and the dog starts to bounce, four straight legs, up almost a metre at a time, bounce, bounce, please throw the ball, bounce, bounce, please. And finally the man does, and the little dog tears off across the sand like a rocket. Such joy. We like this place.

Like thousands before us, our journey to the island had begun at the Liverpool Pier Head, which the writer Robert Hendry describes as "the gateway to the island".¹ It would have been where William Cogeon began his lifelong journey away from the island to America and South Africa. The Liverpool Pier Head is also where an estimated nine million people – British, European and Irish – left for the New World, including Martha Jennings.

The Isle of Man, about 52 km long and 22 km wide at its widest point, is in the Irish Sea, halfway between Britain and Ireland. Its name is said to come from a Celtic sea god called Manannan mac Lir, who would draw a cloak of mist around the island to protect it

from invaders. An Irish legend is that the giant Fionn mac Cumhaill (said to be pronounced something like Finn McCool) picked up a chunk of earth and threw it at a Scottish rival. He missed, the clod landing in the Irish Sea, creating the Isle of Man. Water filled the hollow where he'd picked it up, forming Northern Ireland's Loch Neagh.

Man is a self-governing Crown Dependency of Britain headed by the Lord of Mann, one of the titles of Queen Elizabeth II. It is not part of Britain and a British passport does not entitle you to live there, but the UK government is responsible for its foreign relations and defence.

The island has the world's oldest continuous parliament, formally known as the High Court of Tynwald, established by the Vikings who evidently penetrated Manannan mac Lir's mists and settled on the island in the 8th century. There is a government building in Douglas, but the Tynwald's two houses meet in joint session in an open air ceremony on Tynwald Hill every July, and all laws passed during the year are promulgated there. Every islander has the right to attend this ceremony.

Many Manx surnames are curious. As in Scotland, about 400 years ago they often began with the unstressed prefix Mac. Over the years the "ma" sound fell away, but the "k" was retained, resulting in names like Kneale, Kneen, Quirk, Clague, Quail and, of course, Cogeen.

Sarah and I had arrived at Liverpool's Lime Street station from London the evening before, and discovered we'd missed the last tourist ferry across the Mersey, so there was no chance of making the fabled journey and singing the famous song. We'd just have to content ourselves, as the Man ferry sailed the next morning, with singing The Leaving of Liverpool. (Two more songs to add to our American tour song list, that included Rocky Mountain High and half a dozen other John Denver songs. I have to come clean here: when we got to Aspen, where John Denver lived, we bought, um, three Denver CDs.)

In Liverpool the Beatles Experience was open, but we were too late for the International Slavery Museum. Plaques told us the city had been built on the wealth generated by the slave trade, and that by the late 18th and early 19th centuries 120 to 130 ships left Liverpool every year bearing slaves to the Americas. Altogether Liverpool ships exported half of the three million Africans carried by British slave ships to the Americas. This was something to think about.

My aunt Thelma, 87, Thora's sister and one of Martha Jennings's two surviving granddaughters was also on my mind. Part of the purpose of this trip to the UK that I'd made with Thora was to see how much Thelma, the older of the two sisters, could remember about

Martha. William had died in 1911, long before his granddaughters were born in the early 1920s, but they remembered Martha well as a fierce old lady, who liked to say, if ever they did something to displease her: “I knew a little girl who died doing that.”

When I got frustrated at how little my mother seemed to know about our forebears, she’d say: “We’ll ask Thelma, she’s older, she might remember.”

But the day we boarded our flight to London my cousin, Thelma’s daughter, rang from Cornwall to say Thelma had had a heart attack that morning. She’d been aggressively resuscitated which had left her with several broken ribs, and was now in hospital under sedation. When we landed in London Thora had gone straight to her bedside, while I carried on with the planned journey to the island with Sarah.

The next morning, on the Manannan ferry to Douglas, I wrote in my travel journal: “With all these thoughts of family, Aunt Thelma lies in hospital in Exeter, probably dying. They say she won’t go home, it’s just a matter of time. So there goes, not just my favourite aunt, but another link with the past, another person – the second last person – who remembers Grandmother Cogeens. And as Aunt Thelma and mum die, so finally does Granny Cogeens.”

Thelma died while we were still on the island.

Part Two – Seeking the Cogeens

When I began my research I easily found Martha and the two girls in Cornwall in the Cornish census of 1891, but there was no sign of William, and Martha was labelled “head” of the family. We know of course that he wasn’t dead – he died in Johannesburg in 1911 – so where was he? It became a pattern – you could find everyone else but William was astonishingly elusive. He didn’t appear in the American census of 1885 either, although Martha, baby Katie, Harry and Thomas were all listed as living in the house in Leadville.

I had an idea that William had lived in the Laxey area of the island, because that’s where the lead mine was and that’s where my Granny had once gone to see the famous waterwheel, the Lady Isabella. But the Cogeens were keeping their secrets.

I did eventually find a family of Cojeenes in the Laxey area in the census of 1861: Thomas Cojeene, 59, a labourer, his wife Catherine, 52, a son called Charles, 19, another labourer, and a much younger son, William, aged nine, a scholar.

But was this my William; were these my Cogeens? The spelling of the name was different, but they were from Laxey, they had a William of around the right age, and the

mother's name was Catherine, which could explain why William and Martha's firstborn was also called Catherine/ Katie.

I went back 10 years and looked at the 1851 census, noting something curious. There were Thomas and Catherine Coojeen with, among a batch of children, a son named Charles aged nine, so they seemed to be the same people. But now Thomas was based at a place called Ballig, and described as a "farmer of 30 acres". What had happened to the family fortunes over the intervening 10 years to reduce Thomas from farmer to labourer?

Eventually, in frustration, I contacted the Manx genealogist, Carole Carine, to see if she could do better. She wrote back: "My, you gave me a good name to search. I will list the variations on the name I have found so far:

"Cajeane (e), Cageen (e), Cogeane (e), Cogeene (e), Crageane (e), Cregeen (e), Crigeane (e), Crigeen (e) Crogeane (e), Crojeane (e), Crojeane (e), Crojeen (e) Crugeane (e), Cruggeen (e). And Credeen, Credjeane, Credjeen, Credjen, Credyeane. Corjeane, Forjeage, Corjeag, Cotjeen – no wonder you could not progress!"

Now that I'm in the know, I pore over the census records to find the family recorded as Cojeen in 1841, as Coojeen in 1851, Cajeene in 1861, Cregan in 1871 and Cofeen in 1881. An unusual name can make life easier when you're researching family history, but you don't want one so unusual that even the family can't spell it. And it is still an unusual name – in the island telephone directory today there is only one Cojeen (and no Cogeens), and that belongs to a Ramsey woman in her 80s. In William's own lifetime – 1851 to 1911 – he spelt his surname both Cojeen and Cogeene, but Cogeene is the name that appears on his Johannesburg death certificate and his grave stone. Harry too was casual about the spelling – David Seifried said the American branch of the family spelt it Cogene.

Carine scoured not only census records and the various online sites such as Ancestry.com, but also parish records, and she provided enough information for me to begin to piece together the Cogeens' story.

In 1841 Thomas and Catherine, born Crow, were living at Ballig, a farm not far from Laxey, with Thomas's mother, Margaret, 80, who was described as a farmer. Thomas was listed as an agricultural labourer, presumably working for his mother. At that stage Thomas and Catherine had four living children aged from 11 to two, and two dead, one named Isabella Ann, and another listed only as "Infant".

Catherine went on to have another four children, including her last born, our William, in July 1851. From 1829, when she was about 18, until 1841, when she was about 31, she must have been almost continuously pregnant.

By the next census, taken in March 1851, Thomas's mother Margaret had died, and Thomas was farming his own 30 acres at Ballig. Some of the eldest children had left home, two were described as farmers, and the younger ones were listed as "scholars". William was not on the list, but he was making his presence felt, at least to Catherine; he was born four months after the census. Also in the household on census night were Thomas's widowed sister and an 18-year-old niece. That's eight people in what was probably not much more than a two-up, two-down farmhouse, with of course no running water or no electricity, and a long-drop lavatory.

In the decade after 1851 things went wrong for the Cogeens. In 1861 the remnants of the family were living "Near Laxey Mines", and Thomas, the former farmer, was now a labourer. The family included just Thomas, Catherine, Charles, 19, also a labourer, and William, 9.

Thomas died in February 1871, just two months before the 1871 census, leaving Catherine a widow of 60. William, now 19, was listed as a lead miner. Whatever the nature of the disaster between 1851 and 1861 that saw the family off the land, it meant that unlike his older siblings, previously described as farmers, William was in industry, and a tough and dangerous one at that. Also listed in the 1871 census for the first time was Harry, just seven and described as a son.

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On our first full day on the island Sarah and I go to the Manx National Library and Museum, a tall redbrick building up a steep hill from the seafront. The museum has various displays about the island's history, including one relating to mining. There, among the stiffened felt hats, jackets and canvas trousers worn by the miners, is a large red-and-white spotted handkerchief, a twin to the one that belonged to William, and somehow a vindication of all the old family stories.

I ask one of the librarians if they have any idea where Ballig might have been. He doesn't know himself, but says they have maps of the island going back centuries. And there is someone in the library doing research, someone with "local knowledge". This man, astonishingly, has not only heard of Ballig and but he knows exactly where it is. Between them they find Ballig on an old map, and then the man tells me how to get there: take the main road towards to Laxey as far as Baldrine. Before you reach the sharp bend there's a road off to the right leading to Clay Head.

“Just before the Clay Head road,” says the man, “there is a little unpaved lane. Go up there a 100 yards or so and you’ll find some old farm buildings. That’s Ballig Farm. Cogeens farmed there until the 1970s.”

Part Three – In search of Ballig

After several lovely days we wake to driving rain, but today we have a hired car to go in search of Ballig, so we’ll be dry.

First we go to Lonan Old Church where I believe the family is buried. It’s a reasonable assumption – it’s near Laxey, near the Cogeens’ old home. Maybe we’ll find Thomas or Catherine’s grave. But when we get there it’s clear that this old church ceased functioning as a parish church long before my known Cogeens forebears were alive. The church is called St Adamnan’s and is tucked away in a grassy churchyard, sheltered by tossing trees. The church itself is a surprise, a tiny intact building opening on to an ancient ruin. Passing through the old stone ruin we tug at the door of the church to get out of the wet. Inside it’s lovely, with stone walls, stained glass windows, just six rows of pews, and fresh flowers on the windowsills.

A brochure tells us there has been a church on the site since the middle of the 5th century, and that it is almost certain that the land and its holy well were the centre of pagan worship since pre-historic times. In the churchyard there is an ancient Celtic stone cross, about a metre high, called the Lonan Wheelcross, that dates to around 450AD. We stand in the rain and gawp at it. For a South African, where the oldest Western building dates back less than 400 years, this 1 500-year-old carved stone is truly awesome. In the old days funerals would see the coffins carried three times around the cross before entering the church.

What with the age of the churchyard and the pelting rain, we’re not going to find any recent Cogeens graves here. We give the little church a last look and dash back to the car, shaking ourselves off like dogs before we hurl ourselves into the dry.

Sarah looks up. “Look at the swifts – I think they’re ready to leave for the winter. And so they should.”

We go back to the Laxey road and soon find the sign for Baldrine. Shortly afterwards the road does a sharp dog-leg to the right. We park near the electric railway station, pull up our hoods against what is now a drizzle, and walk up to the main road. The Clay Head Road is clearly marked – and yes, just before it there is a narrow opening in the hedge, trees arching over two tarred strips running on either side of a grassy middelmannetjie, looking

like a portal to another world. We stride along cheerfully along in the gloom. About 100m or so along, a small triangular clearing opens on the left, and facing it, settled into its place as if it has been there forever, is a tiny two-up, two-down house – two cottage-paned windows on either side of the front door, and three windows above.

There are curtains at the window, the grass in the clearing has been recently mown, and a wheelie bin has a couple of black rubbish bags in it, so we know the house is occupied. To the left of the clearing is an impenetrable tangle of blackberry bushes, and behind that are some old stone buildings, presumably once a barn and other outbuildings. The clearing must once have been the farmyard. Can this be the farm where Thomas, William's father was born? Even possibly William himself?

We knock on the front door, but no one comes. I walk around to the back. There is a little paved area, with a couple of garden chairs outside the back door, clearly a pleasant place on a summer evening, but now showing signs of winter neglect.

The house is very small, and it's gloomy and silent – it's hard to imagine that this house and little green were once the heart of a busy farm, with a family of nine or 10 children rushing around. We stand in the clearing, at a bit of a loss – we're not even sure if this is the right place. Then there's the buzz of an engine, and a bright red Postman Pat mail van comes along the lane. He's going so slowly we easily flag him down. The postman leans out of the window, and I ask him if the cottage is occupied. He says it is, by an elderly woman called Mrs Gayle.

"Do you know the address of this place?" I ask.

"Oh yes," he says. "It's Ballig Farm – though I don't know why they call it that, seeing it's just a house."

Jackpot! We've found it. The remains of the ancestral acres.

I high-five Postman Pat, who looks puzzled.

Back in the car we take the Clay Head road, which leads us to a cape overlooking the grey sweep of Laxey Bay. The road is lined by white modern houses with great glass windows staring out over the sea, big carelessly heated houses on a windswept cape that seem to be on a different scale from Ballig Farm, tucked down among the trees with its modest windows and modest hopes. A little house and 30 acres, and even that was lost to William's father Thomas.

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Back in the library at Douglas I reread Carole Carine's letter with all the family details. She writes about James Cogeon of Ballig, who would have been Thomas's older

brother and William's uncle. Their mother was Margaret Cojeen, born around 1761, and she has left a will. "If I were you," Carine wrote, "when you come to the Museum, look up that will. It is in Archdeaconal Wills – it might mention her grandchildren and include William."

So I do. All the information has been placed on microfiche, but the helpful librarian shows me where to look. The handwritten will doesn't mention William, but it does shine a light on life on the island for a subsistence farming family in the mid-1840s. Poignantly, it is signed with a cross.

I Margaret Cogheen of Ballig in the parish of Lonan, widow, being weak in body but of sound and disposing mind, memory and understanding, but knowing the uncertainty of this mortal life, do make, say and declare this to be my last Will and Testament.

First I commit my soul to God and body to Christian burial at the discretion of my executor hereafter mentioned, and in respect to my worldly goods and effects I leave and bequeath in manner following:

I leave and bequeath to my Son James Cogheen and Heir at Law the sum of two shillings and sixpence as a legacy, and unto my daughter Margaret Hogg the sum of one pound as legacy and unto my daughter Isabela, wife of William Cowin, the sum of one pound as legacy and unto my daughter Jane and wife of John Scarff the sum of one pound as legacy.

I leave and bequeath unto all and every person or persons having a right ...to claim in this my will the sum of one shilling.

Lastly I nominate, constitute, appoint and ordain my much respected son Thomas Cogheen my whole and sole executor all the rest and remainder of all my goods, chattels and effects whether moveable or immovable, real or [illegible]... of whatever nature or description, and this I publish and declare to be my last will and testament in the presence of witnesses this 29th day of October 1845.

Margaret died six years later aged 90, and was buried at Lonan, just days before the March 1851 census.

In the probate documents attached to the will, Thomas is charged with returning "to the Archdeacon's Registry a full, true and perfect Inventory of said Estate and Effects", but this inventory has not survived.

Why did Margaret choose her younger "much respected son Thomas" as her executor rather than her oldest son James? Thomas inherits virtually everything, while James merits a derisory two shillings and sixpence.

Was it a snub to James, or was it because Thomas and Catherine lived with Margaret and it was natural for Thomas to stay on the home farm, inheriting the furniture and farm equipment that in any case he used every day? James was all right – the 1851 census shows him to be a “proprietor farmer of 66 acres” with two servants, so perhaps Margaret’s bequest to James was merely a token to someone who was doing very nicely on his own.

The question left hanging is why, just 10 years later, Thomas is no longer a farmer but a labourer, resulting in the permanent ripping away of our branch of the family from agriculture and the land. Thomas’s son William becomes a miner, William’s daughters marry builders and businessmen.

But the “local knowledge” man in the Manx Library in Douglas said Cojeens had farmed at Ballig until the 1970s. Who were they? James died in 1857, only six years after his mother Margaret, but did his descendants stay on the farm, living in the little cottage at Ballig? If so, who was Mrs Gayle, whom Postman Pat said lived there?

In Laxey I inquire at the Laxey Village Commissioners’ office, the local authority, to find out if anyone living has heard of my Cogeens. They refer us to Ray Clague, who used to work on the Snaefell Railway but who has recently retired, and has lived in the area all his life. I ring him, and he agrees to see me the next day.

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I catch the Laxey bus from Douglas. As instructed I ask the driver to let me know when we reach Ballagawne, but he has never heard of the place. I alight much too soon, and walk up hill and down, looking for a pale-green house on the right called Seafield.

Finally there it is, a modern bungalow, with a view across fields to the sea. Mr Clague, round-faced, stooped but smiling, opens the door, and several small dogs bark around my ankles. He leads me into the living room, and begins describing a farming way of life that would have been familiar to Thomas and James Cogeens and that continued until the 1960s. Clague is only 10 years older than I am, but we could have been born in different lifetimes. And the life he describes must have been like that of generations of Cogeens.

Ray Clague grew up on Ballagawne farm. The old farmhouse, across the main road from Clague’s house, has been done up. “It’s a mansion now, even the old cowshed has been turned into a cottage,” says the man who spent hours in that same cowshed, doing his daily chores.

Ballagawne was a good-sized farm of 92 acres, stretching from the far side of the main A2 road all the way down to the sea. Clague still has two acres, but sold the rest to pay out his family after his father died intestate.

“On the day of the auction I went into the dairy and cried my eyes out,” he says, looking bleakly down towards the sea. “Don’t mind admitting it. For five years after that I didn’t know what to do with myself.” Now he grows vegetables for family and friends.

He knew Ballig well, and the Cogeens, specially the old man, Jimmy, who lived in the little cottage near the Clay Head road.

“There were many little fields on Clay Head, all part of Ballig once, all sold off by Jimmy. It’s all gone to gorse now, back to nature.”

Back in the 1950s, when Ray was a lad, his father leased 22 acres from Jimmy Cogeens on Clay Head. “It hadn’t been cultivated for donkey’s years, solid gorse it was. He got it rent-free for a couple of years if he could get it right.

“So he cut the gorse in a band eight yards wide right round the portion, then set the inside on fire. We ploughed it and rotivated it, and brought it back into good grass. We had many crops of hay from that land.”

Two fields above the Ballig cottage still belong to it, says Clague. “Them people who built the big houses on Clay Head, they got round Jimmy, but he kept those two fields to keep buildings off them.”

By the time Clague’s father was renting the land, Jimmy was an old man whose grip had loosened. “My father would go round on November 12, once a year, to pay the rent. Inside the front door Jimmy kept a big beer barrel, with grain for the poultry, and my father saw the rats coming in and helping themselves.

“My dad was asked in, and there they were at the table, Jimmy’s wife at one end, Jimmy at the other, and the cat with her plate in the middle.

“He got old but he was still farming in his mind. He was bent right over, cutting the grass with a sickle, putting it into little rucks, and it would just lie there till it rotted, because there was no stock left to eat it.”

Jimmy had a brother called Robert, who in turn had a daughter. She married a man called Gayle, whose son Godfrey inherited Ballig. It’s Godfrey’s widow who lives there now, he says. I have not established the link between my Cogeens and Jimmy at Ballig, but I have no doubt they were related.

The Clagues farmed dairy and beef cattle, and grew their own feed – 16 acres of barley and half an acre of wheat for the poultry. “We also had 12 acres of potatoes and veggies. Every weekend we’d go round selling the veggies to 200 houses hereabouts.

“We also kept pigs, and 600 hens, in loose housing, not battery.”

Below the farm is Garwick beach, where in days gone by one of the Clague's vegetable customers, Willie White, hired out rowing boats and deck chairs to visitors. "On busy days we'd have up to 1 400 people out from Douglas on the train, right through the summer, going down to the beach through the Glen, charging them sixpence a time. Did all right."

Clague went to secondary school in Douglas, but left on his 15th birthday. "I knew what my life was to be – farming and agriculture. I'd sort potatoes and listen to the radio, and lines of poetry would come into my head, about the sea or the Snaefell Railway.

"The days weren't long enough. People say there's nothing in the country for children to do, but I worked like a man. I'd get home from school, change into old clothes, do the milking by hand, let the cattle out, then get them in, fed and bedded down. There were also sheep, and they were of lot of work come the lambing season."

Clague and his father had four labourers to help. The land was fertilised with seaweed, pulled up from the beach by horse and cart, "200 or 300 tons in a winter". Then there was manure, so the land was well fed. "If you feed the ground, you get results. I'd be out after dark, ploughing with horses harnessed in traces, one in front of the other, to get it done."

The Clagues were still using horses for all their farming needs until 1962, when they bought "a little Ferguson tractor – we were a bit old-fashioned, I'm afraid".

I still don't know why my branch of the Cogeens left Ballig, but Clague has given me an insight into a way of life the Cogeens would have known. After we're done, Clague gives me a lift to the country bus stop and points out places along the way. Where my city eyes see a nice patch of green, he sees Ballig Little Field or Smith's Green or School Field.

Despite Clague's smiles and his welcome, he's had a tough life: hard work, a child who died young, a daughter with crippling arthritis who's confined to a wheelchair, and a sickly wife. I've always felt sorry for my William, who spent his adult life down dark mine shafts, denied his chance of being a being a farmer. Wouldn't it have been so much better to have worked on the land, in the fresh air and sunshine and rain? But that's probably the city girl talking again. Clague's life has hardly been one of ease.

It's gone 8pm when Clague drives off, leaving me at the bus shelter on the long lonely slope of Baldrine Hill. The sun has set, a cold wind is blowing, rain is threatening, and there are curves of empty green fields all around. Then the cheery maroon and cream Douglas bus, all lit up, comes chugging up the hill.

Part Four – Wheels and the Isle of Man

The next day we take the electric railway from Douglas to Laxey. Wheels of all sorts are a kind of island theme – steam trains, trams, motorbikes and of course the Lady Isabella water wheel. Over the years the island has retained a variety of historic transport attractions. You first notice the horse-drawn trams that have plied up and down the length of the Douglas Promenade since 1876, back in William's day. Great carthorses pull the open-sided wooden trams, which run on a 3ft gauge railway in the middle of the road. There is something appealing about a form of transport that moves at the pace of a plodding horse, horses that are unfazed by modern traffic and the motorcycles that whizz by.

Then there is the Steam Railway, launched in 1874, with its splendid scarlet and brass locomotive and bright red carriages, that takes you south along the winding track from Douglas via Castletown to the beach towns of Port St Mary to Port Erin.

Going north, the Manx Electric Railway runs from Douglas up the east coast to Laxey and Ramsey, and went into service in 1893; its 17 miles of narrow gauge track are said to be the longest vintage narrow gauge railway in Britain. At Laxey you can change to Ray Clague's Snaefell mountain railway, also an electric railway, which will take you to the summit of the island's highest point, and from where on a clear day, they say, you can see seven kingdoms: Mann, Scotland, England, Wales, Ireland, Heaven and the Sea. Snaefell, 621m above sea level, means Snow Mountain.

Modernity is supplied by the flocks of motorcycles, ridden by people in black leathers, many of them with grey ponytails and a single earring. Down at the beach at Port Erin, a pretty curving bay that looks like something out of a 1950s travel poster, people sit on deckchairs on the sand sheltered behind little screens to keep the breeze off, while their children play with buckets and spades. On the promenade, which doesn't have a single shop selling tacky teeshirts, just a café or two doing cream teas and a bookshop – a bookshop! – people eat ham and tomato salad off plastic plates and admire the view, while the waves break tidily on the beach. Then there's a roar and a couple of bikers push into town, pull up on the promenade and turn off their engines. And the peace comes dropping slow.

Back on that shiny morning in Douglas we take a horse-drawn tram to the end of the promenade at Derby Castle, and catch the electric railway to Laxey to see the mine, the Lady Isabella water wheel, and Laxey Glen, which runs from the mine down to the sea. The railway line runs up high along the cliffs as it leaves Douglas, and the views down to the sea are impressive. Then it dives inland, winding among wooded combes and across bridges.

The station at Laxey is near the main road to Ramsey, with the Great Laxey Mine and its water wheel above it and the old washing floors and the glen below. The water wheel is a short walk from the station and we head up there. It's a bright blue day, and the fields are green.

The water wheel is wonderful. Photographs can't do it justice, because as soon as you photograph it, you freeze it, and somehow it's the sight of this great machine turning silently that is so impressive. All you hear is the trickle of water, the call of birds, and the occasional chatter of visitors.

The hub of the bright red spoked wheel rests in a cradle of whitewashed stone. To one side there is a tower that carries the motive water up to the top of the wheel, and a spiral staircase winds round the tower to take visitors to the upper platform. It was opened in September 1854, shortly after William's third birthday, and the ceremony was recorded by the Manx Sun:

With the first motion of the Wheel the ceremony of Christening was performed by Mrs Dumbell who gracefully threw the bottle ornamented with lace and filled with champagne, and named the great wheel 'Lady Isabella' in honour of the Governor's Lady. At that moment a flag at the top of the wheel was unfurled and made known the title to the assembled crowds who greeted it with loud cheers, while the shouts from the strong lungs of the workpeople vied with the booming cannon and proclaimed the satisfactory accomplishment of a great undertaking...²

Most of Laxey turned out for the opening, judging from a woodcut of the time. During the speeches, the Manx Sun reported: "His Excellency reminded the assembly of one very important class that they should remember as the agents of the prosperity of the Company – the miners. The toast was received with much applause." At that time Thomas Cogen was a labourer living near the mine with Catherine, Charles and toddler William, and it seems likely they would have trooped up the hill with their neighbours in Laxey Glen to see the opening of this modern marvel.

And it was a marvel – it remains the biggest working water wheel in the world, with a diameter of 22.1m – and was able to pump 1100 litres of water a minute from a depth of 450m. Mining at Laxey goes back to the 13th century – Laxa was the Old Norse for Salmon River. By the mid-19th century water in the deep levels was a problem, and George W Dumbell, an ambitious businessman, knew it was one that to be beaten. He charged the largely self-taught Manx engineer, Robert Casement, and the Cornish mine captain, Richard

Rowe, who was to be Annie Knowles's employer, with working out a way to keep the lower levels dry. In England and other mining areas at this time mines used steam-driven pumps, but on the island where there was lots of water but no natural coal, the men came up with the idea of a water-driven wheel, and Casement designed it. There were a number of waterwheels in the Laxey area, used both to drive pumps and the machines that crushed the ore, but the Lady Isabella was – and is – of a different order.

A network of lades or channels on the slopes of Snaefell feed water into a cistern on the hillside which is higher than the top of the wheel. Water is then led via an underground pipe to the foot of the tower, where gravity forces the water to the top. There the water runs into the buckets on the circumference of the wheel, which rotates in a “reverse” motion, rolling towards the tower.

The wheel's circular motion is converted by a long crank to horizontal motion, and then by T-rockers into vertical motion above the mine's Engine shaft. This drives the pumps which bring water up to the level of the mine's main adit, from where it drains into the Laxey River.³ Back in the mid 1800s lead, antimony and other toxic materials dissolved in the mine water meant that by this time the river was heavily polluted, and no longer home to returning salmon.

The Engine shaft is thought to be the oldest at the mine, but it is not the deepest – the Dumbell shaft reached a depth of 500m, and to get to the bottom the miners climbed down a series of steeply inclined ladders, and hauled themselves back up again at the end of a long, weary shift. In 1872 Egbert Rydings, a man who came to Laxey to start a woollen mill, visited part of the mine and wrote:

...the hole to go down was not more than two feet [about 60cms] square, and reminded one very forcibly of a street coal grid on a wet sloppy day... I found...that some of the spokes of the ladder were by long usage feeling quite loose and many of the iron binding spokes were worn so thin that they felt in some places more like dull knives than round iron spokes... the spokes were ... slippery and slimy from the accumulation of clay and wet from the hundreds of feet climbing them every day...”⁴

In his book *The Great Laxey Mine*, Manx writer and historian Andrew Scarffe said it was calculated that men used a third of their working energy and two hours of their time each day climbing ladders – and that was often after a walk of several miles from home to the mine. As a result, men began the dangerous practice of catching a lift on the slow-moving pump rods. This gave engineers an idea, and the first mechanical hoist in England, known as

a man engine, was installed in Cornwall at Tresavean Mine in 1842. It took a while for the idea to catch on at Laxey – one was finally installed in the Welsh Shaft in 1881, where it is to this day the last man engine installed in a British mine. It was unique in using water pressure as its power source, and shortened the time it took to get to the working levels from around an hour to just 24 minutes.⁵

Rydings describes going to one of the horizontal drives a couple of hours after blasting had taken place and the miners had left work.

The place was still, after two hours' ventilation, hanging black with powder smoke. I found great difficulty in breathing, and the perspiration was running down my body in streams owing to the heat of the place and the close atmosphere... an atmosphere of loathsomeness and powder fumes.”⁶

This vision of hell is hard to believe in on a bright autumn day, as we pay at the little booth and walk up the grassy path to the wheel. We climb the wheel's narrow spiral stairway, and reach the top platform where a scarlet Manx flag is flying in the breeze. You can walk to the end, a bit like being on a high diving board, and see the wheel coming up to meet you. Beyond is the view down the glen all the way to the sea.

Back down on the grass we admire the wheel, pushing its long crank forward and back along a sort of viaduct. Sarah says: “I like the idea of using water power to pump water out of the earth – isn't that clever.”

We walk about 100m along a grassy path to the Old Adit, a narrow opening in the hillside, where, with your hardhats on, you can go about 50 metres or so horizontally into the mine proper. Once it was connected to the Engine Shaft, but now it's a blind tunnel, lit every few metres with electric lights. Judging from Rydings's description, the experience is sanitised almost to the point of pointlessness.

There is a mine trail, which would take us up the hill to the cistern and past an engine house, but since we plan to walk down the glen to the beach, we decide to save our legs.

As we make our way back to the gate we pass signboards bearing huge group shots of miners, and I peer at the grim, moustachioed faces in the hope of recognising William. They're all wearing thick trousers with a strap or string at the knee to keep them out of the mud, collarless flannel shirts and a waistcoat and jacket. They wear what look like bowler hats, but they're specially hardened, and worn over a calico skullcap for comfort. These hats were not supplied – the men bought them from the company. On the hats are blobs of clay

and wax, to which they fix their candles, and around their necks are slung candles and coils of fuses.

William is not among them as far as I can tell, but is clearly of them.

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Before Sarah and I head down the glen we walk past the washing floors, once a loud and busy industrial area in the centre of the upper village, where the ore brought up from the mine was crushed, cleaned and sorted for shipping.

The mine is separated from the washing floors by the main Douglas-Ramsey road on a high viaduct. In the early years horses would drag the ore wagons from the mine under the arches to the washing floors, but in 1877 two miniature steam engines replaced them.

There were more waterwheels here on the washing floors driving the crushing jaws. The Snaefell Wheel, a smaller wheel, with a diameter of 50ft, turns there to this day, and it has an extraordinary history. It was built in Wales in 1865 and used in the Snaefell mine, higher up the Laxey valley from the Lady Isabella. When the mine closed in 1908, it was sent to power the pumps at a china clay pit near Bodmin in Cornwall. In the 1950s when the wheel was no longer needed, it was acquired by the Trevithick Society, which is dedicated to the preservation of Cornwall's industrial heritage. In 1976 it was loaned to the Llywernog Silver Lead Mine in Wales, where it lay in pieces on a Welsh hillside for almost 30 years.

In 2003 members of the Laxey Mines Research Group found it, and persuaded the Trevithick Society to let them bring it home to Laxey. In a major effort over three years by local heritage buffs, enthusiasts and fundraisers, the wheel was brought back to the island, restored and mounted on the washing floors in August 2006, where it began turning again 141 years after it was first installed on the island.⁷

Sarah and I trail through the washing floors and then head down the glen, a long and winding walk past tiny cottages, following the Laxey River where Harry Knowles's grandfather drowned, down to the sea. Some of the cottages are so old that the front doors are a foot or so below the level of the road. The houses are numbered, but we're told that the numbering has changed, so there is no way of working out which was the Cogeen's house. There's a strong chance it's still there – while the cottages are mostly well-painted and trim, there are very few modern buildings.

Eventually the road swings right across the river on a bridge much improved from the "unsafe cart bridge" of Henry Knowles's time. Sarah and I have lunch in a pub garden, which has views up the glen and down to the sea, the river chuntering by beside us. It would not have run so charmingly 100 years ago when it was full of heavy metals.

After lunch we walk down to the beach where a bunch of kids are playing football on a crescent of a green above the sands. Opening on to the green is a curve of cottages, and I photograph a particularly pretty one called Sea Level Cottage. Later I find a reference to the cottage in the excellent souvenir booklet I bought up at the wheel, and a link to Johannesburg.

Sea Level Cottage was the home of the Clague family, headed by Henry Clague, a miner who would have faced the stiff walk up and back down the glen every day. His son James was born in 1872, and probably worked at the washing floors when he left school at 12. At 18 he went down the mine, and the booklet says he probably worked with his father and brothers. "It was usually the youngest person in the team who placed explosives, due to the agility required to get clear of the blast."

In June 1893, when James was around 21, the Great Laxey Mining Company's chief manager, Frances Reddcliffe, wrote him a reference: "Jas. A Clague has been a miner in the employ of the above Co, from two to three years, and is a willing, industrious, honest, steady, capable and altogether deserving young man."

Times were hard and James, married with four children, left Laxey for Johannesburg, where the gold mines paid good money. There were many Manx miners in Johannesburg, enough to form a Manx Society, which our William joined in due course. James Clague did well at the Langlaagte Deep gold mine, where he was promoted to mine captain, and made enough money to buy a plot of land in Laxey to build a house. But like so many of the Johannesburg miners, he died of what was then called miner's phthisis (silicosis). He was just 39.⁸

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Historic wheels give way to modern, powerful ones when we get back to The Blossoms to find lots of motorbikes parked outside. We head off to the Empress for a drink and find tables of guys – and women – in black leather. We get chatting to a fit-looking man in his 50s called John Lamb, who says he was brought up on a motorcycle. He's from Mouton in Cheshire, and is a volunteer marshal for the Grand Prix.

What with the horse-drawn trams, the electric railway to Laxey, the winding lanes and the flower-smothered pubs, not to mention my personal history project, Sarah and I have been immersed in the 19th century. Lamb brings us sharply up to date.

"Most of the people who come to the Isle of Man are petrolheads," he says cheerfully. But most are on the island not to race but to watch. Lamb himself, who has been coming to the island for 30 years, has never ridden the Grand Prix.

“When I was young enough I had two kids, and now I’m too old – I wouldn’t have the nerve,” he says, drinking his beer. “They’re young gods, the guys who enter. They ride more or less flat out for the three to six laps, going more than 360kmh in places. It’s fabulous.”

I think it sounds terrifying, especially when he confides that the racers complete the 60km lap in just under 18 minutes. Bear in mind here that the TT and the Grand Prix are road races, not circuit races, and the course, which starts and ends in Douglas, winds along the island’s country roads, over bridges, through villages and towns, and over Snaefell.

It is seriously dangerous. Between 1907, when the TT began, and 2009, there were reportedly 237 deaths during TT and Grand Prix practices and races. Between 1949 and 1976 the race was part of the Motorcycle Grand Prix World Championship and was the home of the British Grand Prix. But there were increasing concerns about safety, and in 1972 when Italian rider Gilberto Parlotti was killed in the TT, his friend Giacomo Agostini, the reigning world champion who had won the TT 11 times, announced he would never race on the island again. By 1976 the boycott of both races had spread to the extent that governing body of motorcycling, the Federation Internationale de Motorcyclisme, announced that the TT had lost its world championship status.

But the Isle of Man government took over the races, and they continue, as does the danger. One of the first sights that greeted us as we arrived at the ferry terminal was a graphic warning photograph of a motorcycle accident. During the 2011 TT three competitors were killed during races, while another four motorcyclists died on the island’s roads over the TT fortnight. Police Inspector Mark Britton of the Road’s Policing Unit told a newspaper that “at times crash scenes resembled a war zone”.

This does not appear to deter anyone, and the bikers arrive on the island in their hundreds. Sarah, who has never struck me as a petrolhead herself, announces she wants to watch a practice. We find ourselves a nice little spot on a side road in Douglas overlooking a long downhill stretch of main road. People living in the houses facing the road are all out in their front gardens with grandstand positions.

Lamb says: “This is the only place in the UK where you get pure road racing as opposed to short circuit racing. Where else can you watch a race for free, from pubs and side roads and your own front garden?”

Across from us, manning the barrier on the far side of the road, a pair of marshals in bright protective gear are keeping an eye on things. It all looks very suburban. We wait.

Suddenly there is an unearthly yowl, and something blurry flashes by. As the next yowl begins, I lift my camera and press the button. The little screen on my digital camera shows I have taken a nice picture of the house and the marshals across the road. I try again. The marshals wave. Yowl – flash – empty road.

About 20 pictures later I capture a blur of colour. In one snap that I'm particularly proud of I capture two blurs in one frame.

I flinch every time a bike speeds by. A pebble in the road, a perambulating cat, or just a tiny miscalculation, and all could end in disaster. I expostulate to some locals in their garden and a man says: "That's nothing – these are the older bikes. You should see the new production bikes." I give thanks that no one I love is taking part.

Lamb says: "I come here every year because I like to get away from the UK nanny state. The Grand Prix and the TT are exhilarating and exciting and dangerous."

But compared with the TT, says Lamb, the Grand Prix is "sedate". Dear God.

The next day we hire a car and before they close the roads for the evening practice, we take a – really sedate – drive around the course. We know we're on the right track because the island maps helpfully superimpose the course on the printed roads. It's pretty, like very rural England – narrow winding roads, trees, fields, bridges, and then a wild and open bit where the course winds up and over Snaefell. They say, down in Laxey, that the miners would go underground as deep as Snaefell is high.

The course contains a nod to caution: anything that could hurt a motorcyclist if he hit it, like a tree or road sign or stone wall, has been padded, while along some particularly winding stretches the authorities have placed giant foam cushions. But having seen those guys hurtle along the stretch in Douglas, I know in my water that no amount of padding or giant cushions will protect anyone who comes off.

Miners like William who were forced to leave the island to make a living, would probably look at all this with bemusement. But with the traditional island industries of fishing and mining now things of the past, and even agriculture in decline, the islanders have found new ways to remain viable: as a low-tax economy and a tourism destination.

Part Five – Mining lead and the great strike of 1879

In the Manx Library in Douglas the next day I ponder William's dates. I know he was in the Laxey area in 1861, at nine years old, and in 1871 at 19, but he's disappeared by 1881,

never to be counted in a British census again. I also know he's in Leadville by 1884. So when did he leave the island, and why?

One of the librarians tells me cheerfully: "You're in luck. We've got just the man who's likely to know." She takes me over to a table where a man is consulting a book, and introduces me to the author Andrew Scarffe, who wrote *The Great Laxey Mine*. It's a magisterial tome, full of interesting detail.

"Why," I ask him, "would my great-grandfather, a miner at Laxey, have left the island around 1879 or 1880?"

Scarffe is a generous man, and appears not to be irritated by this interruption of his own research. "Hmm, 1879, you say? That was the year of the big strike, which lasted 17 weeks. The town suffered great hardship and many young men emigrated."

This resonates with something my aunt Thelma once told me: that William had left the island during a major mining strike, when pamphlets were handed out to the strikers promising work in the Cornish tin mines. It's always a delight when snippets of family history appear borne out by the historical record.

"Where can I read more?" I ask Scarffe, who laughs and says the library has a copy of his book. Shortly afterwards I'm sitting at my own table, Scarffe's book propped in one of the foam bookrests, taking notes with a sharp library pencil – no pens allowed in the reference section.⁹

By the mid-1870s the Great Laxey Mine employed around 660 people, about 400 underground and 255 on the surface, many of them old men, women and boys in their teens. Most of the underground men were not miners as such – they were labourers filling the barrows with ore, pushing barrows of ore to the shafts, and doing general labouring work like repairing the timbers and working on the pumps. Perhaps Thomas, William's father, had worked here in his labouring days.

The miners were not employed by the mine as such – it was more complicated than that, and also, to my 21st century mind, grossly unfair. They worked in groups of four to six known as a pitch, usually half miners and half labourers. Every month the pitch leader would negotiate with the mine captain the rate they would be paid for the following month. The pitch members paid for the tools of their trade – fuses, gunpowder, dynamite and candles, and they bought their hard hats from the company. They even paid to have their work tools sharpened by the mine's blacksmiths.

Unlike the miners, the labourers were paid by the company, and this amount was then deducted from the pitch's earnings before the miners got their money.

Scarffe quotes the example of Robert Cubbon, leader of a big pitch of three miners and six labourers, who agreed to a bargain on February 7 1879 to work at the 185 fathom [about 338m] level. After a month the pitch earned £24 15 shillings, from which £2 8 shillings was deducted for candles, five shillings and four pence for gunpowder, £11 1 shilling and 10 pence for dynamite; and 10 shillings for the sharpening of work tools. Then the labourers' wages of £16 17 shillings and 10 pence (or 14 shillings a week each) were deducted, producing a loss of £6 14 shillings to be divided between the three miners. It must have been a bleak month for those men and their families.

In January 1879 the Mining Journal reported a decline in the price of lead, leading to questions about Great Laxey's financial position. The directors decided on some changes.

The shifts were to be a minimum of eight hours long, the morning shift would start at 6am instead of 7am, all underground men were to work six shifts a week, the only paid holidays would be Christmas Day and Good Friday, and payday was to move from the first Friday to the first Saturday of the month.

The significance of payday being moved was that paydays were non-working days. Scarffe told me: "Perhaps by moving it to Saturday they got an extra day's work out of the men – I would hazard a guess that a lot of them weren't sober enough to work on Saturday when they were paid on Friday."

The other big change was an attempt to force down the rate at which bargains were agreed. Scarffe told me later in an email that the labourers' wages had been guaranteed to a certain extent: "Prior to this... the mining company took the wages of the labourers from the total earnings for the month for the bargain or pitch, and paid the labourers directly.

"After 1879 the entire bargain was paid over to the bargain man or pitch leader who then divided it among the members. Presumably the mining company's thinking was that if the bargain had had a bad month, they did not have to pay a guaranteed amount to the labourers and all the men in the bargain would have to fight for their share."

The miners were outraged, and sent a deputation to the chairman of the Great Laxey mine, George William Dumbell, but the only concession they could wring out of him was to bring the end of the Saturday shift forward from 9pm to 7pm. Then he patronisingly told them to "go back to work like good men".

The men resolved to go on strike, with much of their anger aimed at the mine captain, Francis Reddicliffe. Reddicliffe was due to attend a shareholders' meeting in London, which the men opposed. Scarffe wrote that in near riot conditions a crowd of 400 miners marched on Reddicliffe's house to prevent him from leaving. When they discovered he had already

gone, their fury boiled over and they attacked the house, breaking several windows. The Douglas police were called.

The men said they would not return to work while Reddicliffe remained mine captain, and wrote him a chilling letter:

We the underground men of the Great Laxey Mine (bid you) a long farewell, ah yes we hope a final adieu. If you show yourself amongst us any more we will not be responsible for whatever may befall you. As a body of men we are compleately [sic] tired of your management. Farewell. The Laxey miners.

But outrage does not feed families, and in small, close-knit communities which rely on each other, when a large proportion of the residents are not earning, there is a knock-on effect on surrounding businesses. Everyone in Laxey felt the pinch. Some of the men found temporary work laying the gas mains for the Douglas Gaslight Company, but there was little other work available. The Isle of Man Times reported that by the middle of April about half the miners had left the village. "The younger ones are talking of emigrating. Trade is almost at a standstill." On April 19 the newspaper reported: "A large number of Manx miners left by Manx steamer to proceed by the White Star Line Germanic this week..." The Germanic plied the transatlantic run to America.

The strike committee asked for help in feeding the miners and their families, and by early June there were signs the miners' resolve was weakening. They wrote to Dumbell outlining the conditions under which they would go back to work, but this was rejected. The strikers were told if they did not return to work within days there would be a lock-out, and the directors began considering bringing in scab labour from England. When four men tried to return to work they were beaten up by a crowd at the mine entrance, and 11 miners were charged with intimidation. They appeared in court in Douglas at the end of June, supported by hundreds of their workmates who had walked the seven miles from Laxey. The courtroom was packed, and more than 200 men waited outside.

The company arranged for 100 English miners to come to the island. They would have to sign on for a year, but would get a guaranteed eight shillings and sixpence a shift for the first two months, and all travelling expenses, board and lodging would be provided. Conditions such as a fixed wage were a slap in the face for the Manx miners, and they were not having it. When the first 19 English miners arrived at the Douglas quay they were met by threatening local strikers, and the English miners returned home without having set foot in Laxey.

By this time everyone in Laxey was suffering and, after 17 weeks, to the Laxey directors' satisfaction, the men agreed to go back to work under the conditions the company had originally demanded. In November a jury acquitted the 11 miners of intimidation, but the company refused to take them back.

Presumably they were among the scores who emigrated and left the island forever. William was not one of the 11, but he too had gone, probably first to Cornwall, and then on to Colorado. The strike had led to much bitterness and suffering, and the aftermath saw families torn apart. Laxey would never be the same again.

It wasn't the first time Manx miners had emigrated from their beloved island, and it wouldn't be the last. Less than 10 years after the 1879 strike, the Isle of Man Times reported the discovery of gold on the Witwatersrand, and there was another exodus.

"Everyone turned out to see them go and wish them luck," it reported.

So great was the demand that Mr Jackson, the village chemist, became the local agent for the Castle Line – later the Union Castle Line. A passage direct to the Cape from England cost £12 12 shillings, including bedding and food.

Perhaps William, who had reached the Witwatersrand via Leadville, met up with some of his old compatriots on the Reef at this time.

By the late 1890s it was said more money was coming to Laxey from the Reef than from Laxey itself. Ferdy Clague remembered: "Every person was full of talk about Africa. It was like a fever. You were nothing if you weren't going to Africa...The ones that was in Africa was writing and saying how well they were doing and telling the fellows at home to come out. They would offer to send them the passage money and they could pay it back when they were earning."¹⁰

But the price to be paid was much higher than just the fare. The Rand money might have been good, but the toll in terms of ruined lungs was terrible. Many came home to Laxey to die. Years later a young British man, William T Powell, wrote a memoir of his year in Johannesburg, and recalled his voyage home in 1903: "The purser told me on the boat, when I returned to England, as I watched one Cornish miner lying on the deck covered in beads of perspiration and having trouble breathing, that they took home one to three cases of TB every trip."¹¹

In 1918 a retired miner called Thomas Charles Clague – there are a lot of Clagues on the Isle of Man – went down to the 50 fathom level of the Laxey mine, placed a stick of dynamite in his mouth and detonated it. The inquest into his death was told he had recently returned from South Africa suffering from phthisis.¹²

As *The Great Laxey Wheel Souvenir Booklet* put it, there were those who said the only Laxey men who did well out of the Johannesburg goldfields were those who had never gone – people like Mr Jackson, who sold them their tickets, and the undertakers who buried them.¹³

CHAPTER THREE – TIN

Interlude: West Penwith, Cornwall – September 1856

From the comfort of a rug on the old kitchen sofa, six-year-old Martha watched her mother contemplate a pile of ironing. Yesterday had been breezy and bright, what Honor called a good drying day, but today's grey drizzle robbed the world of colour. Martha didn't mind – her being a bit poorly meant she had her Ma to herself, apart from the babies, and that was a rare treat.

Da's face appeared at the kitchen window, and Martha jumped. He'd gone off to work ages ago. He came in, looking rushed, and Honor glanced up.

"What is it?"

"I was half way down the valley when I realised I'd taken my croust and my tea, but left the underground clothes you washed yesterday."

Now Ma looked worried. "Oh Richard. You'll be late. And it's unlucky to come back once you've left for work."

He laughed at her and pulled his vest and trousers off the overhead drying rack.

"The only thing to worry about is if I'm late for the forenoon shift and they dock my wages. So quick, give us a kiss." He grabbed Ma around the waist. "And one from you, maid," and he kissed Martha too, his moustache tickling her nose. " – and I'll be off."

Martha sneezed. "Bye, Da."

Mother and daughter watched Richard stride down the lane.

"Well, this isn't getting us anywhere," said Ma, and put the old flatiron on the stove to heat.

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Richard was tired by shift's end. Down on level 55 of Wheal Fortune they had drilled, set fuses, blown the rock, and then trammed the broken rock away. His vest was damp with sweat from the effort and the warm air underground. Now it was time to start the long climb up the ladders to grass, the miners on the rungs above him lit only by the starry light of the candles stuck to their hats.

He had climbed about half way, taking care to place his feet squarely, when he heard a shout from above, and a split second later was hit hard in the chest by something falling.

His arms were pulled from the rungs and he began to fall too, grabbing despairingly for purchase. He felt himself bang against several other men on the ladder, and then overwhelming pain washed through his body before the darkness closed in.

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Martha had decided she was feeling much better. She'd had her supper, and any minute now Ma would tell her to go to bed. She slipped out of the kitchen door into the glowing summer evening just as Mr Davey came running up the lane. This was unusual, and she hid behind the rain barrel to find out what was happening.

Mr Davey pounded on the door and shouted: "Missis! Missis! There's been an accident down at the pit."

Moments later Ma came rushing out the door, a shawl around her shoulders, calling instructions. "Richy, you look after the little ones. Honey, help John tidy up. I don't know where Martha's got to – you'd better find her."

And then she was gone, flying down the lane after Mr Davey.

Martha knew if she called out she'd be sent back, so she followed as quietly and as quickly as she could.

The sky turned a luminous blue as Martha ran behind them on her stubby legs. The mile to the mine was longer than she had thought, and Honor and Mr Davey were soon out of sight. But Martha kept going. Something was up.

Eventually she stumbled up past the mine buildings to the shaft head, where miners and Ma were standing around two figures on the ground. She plodded up to her mother – she knew she was going to get her legs stung by Ma's strong right hand.

But Honor didn't seem to notice her. One of the men was saying to Ma: "You've got to be brave, Missis. He's gone. There wasn't a chance."

Martha looked down at the people on the ground. Oddly, one of them was her Da, still in his work clothes, one leg lying funny. His eyes were closed and he was very still. There was a smear of something on his cheek.

"Mama?" she said uncertainly, grabbing at her mother's hand.

Honor turned and looked down at her. "Oh my lord, Martha." Then she picked her up, hugged her tightly, and began to cry.

Part One – Disaster at Levant

The rocky walls of the tunnel narrow, but Thora and I stumble on along the muddy gravel floor. Water dribbles down the walls, and the dim lights strung intermittently at roof height only emphasise the gloom. The uneven roof is unnervingly low, and seems to press down on us with the weight of the rocky hillside above.

Unexpectedly a small chamber, about the size of a domestic pantry, opens to the left, and I start. Three men are sitting in silence around a little table. Then I realise they're not men at all, just life-sized mannequins in overalls and hardhats. Above their heads a series of ladders reach up into a dark void. A sign on the wall of the little bay explains that the men are having their mid-shift break and eating their croust¹ of pasties and cold tea.

The adit we're stumbling through is called Wheal Mexico, hand-dug in the 1700s, and driven horizontally into the hillside. The roof is barely 5ft 5inches high, an indication how small the miners of that time were, and every time we bash our heads on projecting rocks we're glad of the hard hats we've been issued.

I shiver. Spending half an hour as a tourist down this old Cornish shaft, part of the Geevor mine, is not much fun, but generations of my forebears spent their lives down pits like this, hours every day, with no possibility of going up for a bit of fresh air and light at midday. In winter it would be dark when they went down, and maybe dark when they came up.

I couldn't do it, I think, and then stop. What choice did these men have, with wives and families to feed and no work except down the mines and at sea? You do what you must.

My mother Thora and I emerge from the mouth of the adit into a drizzly afternoon, with a chill wind blowing and a lead-grey sea heaving sullenly below. Behind us, a devastated landscape stretches up the hill, the legacy of decades of mining. Geevor Mine closed amid much bitterness in 1991, and it is now a heritage site. That sounds better than tourist attraction, although it probably makes no difference to the miners who were laid off.

The wind behind us, we stomp up the hill to the old mine buildings, now a museum, and a restaurant looking down across the workings to the sea. This view of the torn-up hillside and miserable grey sea are not the subject of pretty Cornish postcards; it is more the industrial landscape that was typical of this county for hundreds of years.

Inside the restaurant it is warm and steamy, and the beef pasty and hot cup of tea make up for the bleakness outside. But the miners would have had to be content with a cold pasty and a bottle of cold tea.

After our meal we do some more exploring, indoors this time. We visit the Dry or change house, which is unexpectedly touching. It is the room where the miners showered and changed after their shifts, and has been left – or made to look – as though a shift is due up any minute. Towels, smeared red with iron oxide, are draped over open locker doors, and hardhats are stashed on shelves. The recent miners would have come up the shaft in a cage, and then driven home after work, but in the old days they would have climbed up hundreds of feet of ladders and then faced a long walk home, often in wet or even freezing weather. You pass a few cottages on the approach to the mine, but nothing like the number that would have been needed to accommodate all the miners who worked at Geevor.

We go into the compressor room and Thora, who worked for the Climax Rockdrill and Engineering Company in Camborne during World War II, says it smells deeply familiar. We watch a video showing the end of the mine's working life. The miners had hoped the British government would bail them out, but the price of tin was artificially high, and then it collapsed. In the video a miner, fresh from the shower at the end of his final shift, says he'd "like to chuck bleep bleep Margaret Thatcher down the bloody shaft". Three hundred people lost their jobs.

Geevor was Cornwall's last working tin mine, and its closure was the end for an industry that had sustained the county for centuries. By the time of the Korean war in the early 1950s only three tin mines were still functioning: Geevor, South Crofty in Camborne, and New Consols in Callington, as well as Castle-an-Dinas in St Columb, which produced wolfram. These four mines employed 840 workers in an industry that a century before had employed 50 000.²

Tin ore is called cassiterite, and it is found in sheet-like structures or lodes. In West Penwith, the extreme west of the Cornish peninsula, the tin and copper lodes are less than a metre wide and may be up to 2 500m long. They slant sharply downwards, unlike coal seams which are usually horizontal.

The museum has an exhibit on the emigration of Cornish miners to pits all over the world. In the second half of the 19th century a staggering 170 000 adults left Cornwall for other countries. In some parishes most of the money coming in was remitted by miners from abroad; nearly £1million a year was being sent to Cornwall by miners in the Transvaal shortly before the outbreak of the Anglo-Boer War.

In a glass case there is a fragment of a letter, written in 1846 by one Thomas Davey to his betrothed in St Just – down the road from where we are. He went to Australia. "I am working at Burra Burra copper mine and I hope I shall have the pleasure of seeing you out at

South Australia... I am still single and shall remain so until you come... If you come you will have no occasion to bring but very little clothing for you can wash on board the ship twice a week. Clothing is just as cheap as it is in England, and so is meat.”

Did she go, I wonder. Did she leave her family and home to travel halfway around the world to join Thomas Davey as Martha Jennings did, all the way from this small area of Cornwall across the Atlantic Ocean, and then on across North America to Colorado to marry William Cogeen?

In the gift shop I buy myself a silvery tin bangle which joins the gold ones on my wrist. “Maybe I’ll get a silver one too,” I say to Thora. “Then I’ll have a bangle in all the metals William mined.”

“What about lead?” asks Thora, and laughs. “Perhaps not lead.”

We drive along the cliff road towards St Just and Land’s End, stopping beside the ruins of an engine house marking what was once a mine called Higher Bal. From it I count 10 old ruined engine houses, their stony shoulders hunched against the wind, as well as Geevor’s great headgear.

We stop again at the Levant Mine, whose shafts extended for 2.5km under the seabed. Tons of rock above your head are one thing, what about tons of rock and ocean?

There is a famous ballad by W Herbert Thomas called The Flooding of Wheal Owles, which contains this verse:

If you went down at Botallack, or Levant pr’aps you’ve heard tell
How above your head the boulders would heave with the billows’ swell;
And you’d hear them grating, rumbling, ’bove the 40 fathom end,
And you’d climb the ladders quicker than you’d managed to descend.

In great detail the poem describes the dreadful day in January 1893, when 19 men and a boy died in Wheal Owles, near St Just, after miners inadvertently blasted into the flooded workings of neighbouring Wheal Drea, and seawater poured into the mine. It goes on:

I ’ad shut one hole an’ was usin’ the hammer an’ pickers there,
When a sound like ten thousand thunders broke out through the heated air,
An’ I heard the rush an’ the roarin’, like the burstin’ of a tide,
An’ “Water! The mine is flooded! Run for your lives,” I cried.³

Levant was a prosperous mine, producing high-grade copper ore worth £200 000 in a decade in the 1820s; it even produced 4 ounces of gold. It was one of the Cornish mines that

had layers of different ores, tin on top, then copper, and below that further deposits of tin. By the 1850s the miners had reached the lower tin deposits, and to speed up the process of reaching the working faces, the mine installed a man engine in 1857, so that the miners no longer had to climb down the ladders.

Man engines, like the one installed at the Great Laxey Mine some years later, had been invented in the early 1840s, and were a mechanical lift that worked in a series of steps. It consisted of a stout wooden beam or rod going all the way down to the bottom of the shaft – in the case of the Daubuz shaft at Levant about 500m down. It was made up of 40 feet timbers bolted together, and would pump up and down in 4m strokes. Every four metres small platforms known as sollars – from the Cornish word for floor – were fixed to the side of the shaft, and other platforms, known as steps, to the beam. As the beam moved up, a miner would rise up and step off on to the sollar, waiting for the beam to descend and the next step to come down to his level. Then he would step on that and as the beam rose again, go up another 4m. A fully loaded man engine could be carrying up to 150 men.

The Levant man engine worked successfully for more than 60 years, but on October 29 1919, it collapsed. It was 2.45pm, and a shift was coming up. The Cornishman & Cornish Telegraph reported: “A certainty that twenty men have been crushed to death and that eleven missing men have probably shared their fate – short of a miracle happening – makes it more terrible even than the Wheal Owles disaster...

The tragedy was the work of an instant. Something snapped – perhaps an iron cap or bolt – and what has been described as a living pillar of men, dropped down the man engine shaft, crushing many to death, mangling more with debris of breaking wood and metal – the beam of the man engine, the ladder ways in the side of the main shaft, and the platforms cut in the side of the shaft.

The same edition of the Cornishman and Cornish Telegraph reported the account of a young St Just miner called Robert Penaluna:

I was coming up on the man engine, three steps below the 150 fathom level. The engine was full of men. We had travelled up part of the way between one sollar and another when the engine dropped a little bit then picked herself up again. Then she fell away to the bottom. I was thrown on my chest upon the sollar. My chum on the next sollar below (Charlie Freestone, aged 25 of St Just) had his feet caught between the step on which he stood and the sollar, and was swung upside down.

I was not hurt except that a piece of timber struck me on the leg. For about three hours I was down there before I could come up. Then I walked up the ladder through the pumping engine shaft, to the surface. Before that I picked up Freestone, who was suffering from shock, and dragged him through a manhole on to the collar upon which I was standing. He fainted in my arms. We got him back to the 150 level shaft and men of the afternoon shift helped to drag Freestone to the surface with ropes. When the engine broke it was a tremendous crash for in dropping she knocked away timber and everything else in her path. The engine rod on which we were travelling shook violently. The crash gave a terrible shock to us all, and everybody lost heart and nerve entirely. The screams of some of the men were awful, as they gripped the rod like grim death... I wouldn't go through an experience like that again for the world.⁴

It wasn't only the miners who lost heart and nerve. The deeper levels were never worked again, and in 1930, amid falling tin prices, the mine effectively closed. Today, like Geevor, Levant is a "heritage attraction". Having been closed longer, grass has grown over the industrial landscape and today, perched on the edge of its cliff Levant is a picturesque memory of a way of life that kept Cornwall going for thousands of years.

However, for sheer ruined beauty, there is nothing to beat Botallack, mined from the beginning of the 18th century until World War I. I have two books on Cornwall that feature pictures of the old engine house of Botallack on the cover – and if you've ever seen a postcard of an abandoned Cornish mine, it is probably Botallack. Levant is on the cliff edge, but Botallack is rooted among the rocks at the foot of the cliffs, amid the sea spray. Part of the BBC television series *Poldark* was filmed here.

We park on the cliff top above Botallack. The drizzle has stopped and the clouds are ragged flags in the wind. I leave Thora on a bench, and scramble down the muddy path to the roofless stone buildings, lonely, abandoned and beautiful. I marvel at how a former generation has left a landscape enhanced by ruined industrial buildings, so unlike the ugliness of the more modern Geevor.

Part Two – The Bucket of Blood

Drive almost anywhere in England and you'll come across pubs with names like the Wheatsheaf and the King's Head. But at Phillack, near Cornwall's Hayle estuary, there is a

pub with an arresting name: The Bucket of Blood. Hanging outside is a gloriously gory pub sign depicting an old fashioned well and a horrified man who has just dropped the water bucket in shock at the sight of the blood slopping out.

I am out with the two Thoras – my mum, and my cousin, who lives in Penryn, near Falmouth. Neither shows any particular desire to pop into the pub that early in the afternoon, and so we pass by.

But the pub name makes an impression. Some months later, back home in Cape Town, I'm interviewing a Cape Town-based British bestseller writer called Albert Jack whose books explore the history of popular culture. Between them his books have spent more than 20 months on Britain's Sunday Times and the New York Times' bestseller lists. One is about British pub signs – *The Old Dog and Duck*.

"Ha!" I say to him. "When we were on holiday in Cornwall recently we passed a pub called..."

He interrupts: "The Bucket of Blood!"

I suppose it's unlikely I was going to surprise him. Not only does he know the name, he knows the story.

The Bucket of Blood, he says, is a very old pub known for a couple of centuries as the New Inn. Cornwall was a poor county where life was a struggle and smuggling was a way of life – the only way to keep food on the table. Or as Jack puts it in his book: "At one point the London authorities believed the entire adult population of Cornwall was involved in smuggling, either as a consumer or an illegal importer."

Customs men were not popular in Cornish sea ports, so when a customs man staying at the New Inn in the 1700s disappeared, no one was terribly surprised. Until the next day when the landlord went out to the well and drew up a bucket containing the customs man's head.

Jack wrote: "Whether this is true or not – although given what we know about smuggling, pirates and the Cornish, it very likely is – it is certainly why, in 1980, the New Inn was renamed The Bucket of Blood, possibly my favourite pub name of all."

George Borlase, a member of a land-owning family near Pendeen and St Just, complained that "the coasts here swarm with smugglers from the Land's End to the Lizard". He wrote in 1753:

The late storms have brought several vessels ashore and some dead wrecks, and in the former case great barbaritys [sic] have been committed. My situation in life hath obliged me sometimes to be a spectator of things which shock humanity. The

people who make it their business to attend these wrecks are generally tynners, and, as soon as they observe a ship on the coast, they first arm themselves with sharp axes and hatchets, and leave their tynn works to follow those ships... They'll cut a large trading vessel to pieces in one tide, and cut down everybody that offers to oppose them. Two or three years ago, a Dutchman was stranded near Helston, every man saved, and the ship whole, burthen 250 tons, laden with claret. In twenty-four hours time the tinnners cleared all. A few months before this, they murdered a poor man just by Helston who came in aid of a custom-house officer to seize some brandy... I have seen many a poor man, half dead, cast ashore and crawling out of the reach of the waves, fallen upon and in a manner stripped naked by those villains, and if afterwards he has saved his chest or any more cloaths they have been taken from him.⁵

The mines near St Just and Pendeen had made the Borlase family fortunes, so Borlase income suffered when the tinnners went after ships. Borlase said regardless of whether the tinnners secured a wreck or not, by withdrawing their labour 2 000 miners could cost a mine £100 a day and, if no one was left to man the pumps, the mine could be "entirely drowned".

F E Halliday, author of *A History of Cornwall*, comments: "Perhaps the prosperous [Borlase] inadvertently weakens his case, for £100 a day divided among two thousand men is one shilling, and one cannot help feeling some sympathy for those wreckers, who had at least the chance of salvaging more than a shilling's worth of firewood."⁶

But smuggling had become a serious problem. Halliday says no one will ever know...

...how much tin escaped coinage duty, hidden away under hogsheads of pilchards shipped to the Mediterranean, or how much ore served as ballast in boats running over to Brittany, whence they returned with cargoes of brandy, gin, tea, lace and salt, which were hidden in caves before distribution, or by miners in their workings and moorhouses [the old name for changehouses]. We do know, however, that by 1770 some 470 000 gallons of brandy and 350 000 pounds of tea were being smuggled into Cornwall every year at a cost of about £50 000 to the Exchequer.⁷

This was the Cornwall of my forebears. Martha Jennings's grandmother was another Martha, born around 1796 in the Ludgvan area of West Penwith. Her father would have been familiar with the goings on, and would have understood that because a wreck was not legally a wreck if anyone survived, there was "every incentive to fail to see a drowning man, or, if his shouts and struggles could not be ignored, to shove him back under the waves".⁸

Cornwall was a poverty-stricken and lawless county a long way from the seat of English power, and while spectacularly beautiful, the soil was poor and agriculture was a struggle. But Cornwall had three great gifts, recognised in the traditional toast of: “To Fish, Tin and Copper!” Later came the discovery of china clay or kaolin, which miners tended to disparage, but it gave many an income when the hardrock mining was in recession.

By the mid-19th century when our Martha was born things had changed. Methodism had been introduced by the Wesley brothers, John and Charles, and when they preached at Gwennap Pit, today a natural amphitheatre near Hayle but once a mine, thousands flocked to hear them. Chapels went up all over the county, and drinking and dancing were frowned on.

Today the fish is mostly gone, the mines have all closed (although there’s talk of re-opening South Crofty), and the Eden Project, the world’s largest greenhouse complex, has taken over the clay pits near St Austell. But finally the beauty has come into its own, and Cornwall’s major earner these days is tourism. Visitors started arriving in real numbers when the railways came.

As far back as 1898 Arthur Quiller-Couch, editor of the Cornish Magazine, asked readers for ideas on how to develop tourism. He wrote:

... I see Cornwall impoverished by the evil days on which mining and ... agriculture have fallen. I see her population diminishing and her able-bodied sons forced to emigrate by the thousand. The ruined engine-house, the roofless cottage, the cold hearthstone are not cheerful sights... Well then, since we must cater for the stranger, let us do it well and honestly. Let us respect him and our native land as well.⁹

Nowadays the Cornish are glad of the income tourism brings, but are ambiguous about the tourists themselves. If you’re ever driving in Cornwall and you see a bumper sticker reading “Non Emmet”, know that you are behind a Cornish driver who is telling other Cornish drivers that he is not a tourist. Emmet is an old word for ant.

By the 19th century the Cornish might have become respectable, but the promise of heavenly salvation didn’t do much for life on earth. In the 1830s, before the mines opened at the Devon end of Cornwall, Halliday says the average age of people buried in the cemetery of St Cleer was 45; by 1860 mining had forced it down to 22. In 1841 the average age of death in the Redruth district, where I was born, was 28 years.¹⁰

Accidents were frequent, caused by falling rocks, falling miners, and the perilous business of “shooting the rocks”, or blasting, using gunpowder. This led to the loss of eyes,

hands and lives. The methods used to light the powder charge were primitive. The common way was to join lengths of goose quill and then fill them with fine gunpowder. These fuses often caused the main charge to explode prematurely, leading to injury or death. Things improved after William Bickford of Tuckingmill, near Camborne, invented the safety fuse in 1831, lengths of rope which had gunpowder poured into their centre as they were spun. They would burn at a reliable 30cm a minute, giving miners time to get clear.¹¹

But it wasn't just "shooting the rocks" that was dangerous. The daily routine of climbing up hundreds of metres of ladders at the end of a shift, carrying shovels or picks, could be lethal to an exhausted or malnourished miner.

Then there was the air underground, full of dust and blast fumes; when men were paid by the volume of ore they extracted, they didn't wait around long after blasting for the air to clear. At the end of a shift the men would go from warm humid air below to freezing temperatures above ground, change into their street clothes, possibly still sodden from the journey to work, and then walk home, a walk that could take an hour or more.

Wages were pitifully low, meaning that miners and their families were often undernourished. Halliday quotes a miner, Thomas Oliver, describing conditions in the 1850s:

Everything was very dear, and the working people were half starved. My father had the standard wages for surface hands, which was £2 5s a month, and I was earning 10s a month, so that £2 15s had to provide for five of us. For our breakfast we had barley gruel, which consisted of about three quarts of water and a halfpenny-worth of skimmed milk thickened with barley flour, a concoction which went by the name of sky-blue and sinker. We lived about half a mile from the mine, and I had to go home to dinner [the main midday meal]. I can assure the reader that I was sometimes so feeble that I could scarcely crawl along. For dinner we had sometimes a barley pasty with a bit or two of fat pork on the potatoes, and for supper a barley cake or stewed potatoes or turnips with a barley cover... Groceries such as raisins and currants were 10 pence per pound, tea 4 shillings a pound and the common brown sugar 5 pence a pound. I never saw at that time such a thing as jam."¹²

The Cornish could be their own worst enemies. When attempts were made to establish a miners' hospital in Redruth, the miners themselves refused to have anything to do with it, apparently preferring to die at home. (It was eventually set up – I was born in the Redruth Miners' and General Hospital in 1952.) The system of payment on the mines worked against the miners too. The miners saw themselves as freelancers – they worked for themselves, not

for mining companies. Tutworkers worked in development, digging haulages and drives, while tributers dug out the ore. Both worked in groups called pares – rather like the pitches and bargains of the Isle of Man – and would quote a price in advance to the mine captain. It was of course to the mine’s advantage for the captain to accept the lowest offer, and pares were often out of pocket at the end of the specified period.

The miners’ independence suited the mine owners, or “adventurers” as they were known, partly because they were getting ore extracted at the cheapest possible price, and because they had none of the union trouble that beset mine owners in the rest of England.

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The origins of tin mining in Cornwall go back to the Bronze Age. In *The Story of Mining in Cornwall*, Allen Buckley says for 2000 years before the Christian era the area that became Cornwall and west Devon was one of the main sources of tin for all the civilisations around the Mediterranean. Tin was used to plate the insides of copper pots and vessels (you can’t cook in pure copper – it leaches into acidic food) and later for the making of bronze church bells and cannons. The tin was bought in Cornish towns such as Bodmin, then carried across France to the Mediterranean, from where French ships took it to Egypt and other destinations.

The tin working districts were known as stannaries (after the Latin for tin – stannum) and from time immemorial tinnerns had special rights and responsibilities. In 1201, when annual tin production was around 432 tons, King John issued the first stannary charter, “Charter of Liberties to the Tinnerns of Cornwall and Devon”. It allowed tinnerns to be judged in both civil and criminal matters in special stannary courts and jails, and pay stannary dues and taxes. Tinnerns had the right “of digging without hindrance from any man, everywhere in moors and in the fees of bishops, abbots and counts, and of buying faggots to smelt the tin without waste of forest, and of diverting streams for their works, as by ancient usage they have been wont to do”. Halliday says they became a state within a state, they acknowledged no feudal lord, and obeyed the king only when his orders were forwarded by the Warden of the Stannaries.

Cornwall had four stannary districts, each with a stannary town, where smelted ingots were taken to be assayed. The district that my ancestors are from was the most south-westerly: Penwith and Kerrier, with Helston (and later Penzance as well) the stannary town.

Much of medieval mining consisted of tinnerns extracting alluvial tin. They would divert a stream to their workings to wash away lighter soil and sand, leaving the heavier ore

behind. This process, known as tin streaming, had an unfortunate side-effect – it washed tons of silt into rivers, effectively cutting off small tidal ports such as St Erth from the sea.

Part Three – The Lamb and Flag

Both my mum's grandfathers were miners – William Cogeen, of course, and her paternal grandfather, James Bawden. William and his adopted brother Harry were the first and only Cogeens to go underground, as far as we know, but James's family had been miners from way back. So had Martha's.

Looking into the Cornish censuses gives an idea of how tough life was, and how young they were when children started working on the mines. Until 1842 when it became illegal, children under 10 worked underground. In the 1851 census there's a great-great uncle called William Bawden, described as a miner, aged just 13; in 1861 Martha's 13-year-old older brother, John Jennings, is described as a tin streamer; and in 1871 a 20-year-old Martha and her younger brother Thomas, 16, are described as "assistants in tin". While women and children did not go down the mines, they worked on the surface, dressing the ore – crushing, sorting and washing – ready for smelting. The women and girls were known as bal maids – bal is the old Cornish word for mine – and Buckley says that while it is impossible to know how many worked on the mines, in the early 1860s more than 2 500 bal maids were working in the Camborne area alone.

Ore-dressing was divided into five main parts. Youths did the first part, known "ragging", using 14lb (6.4kg) sledgehammers to smash the larger rocks. Girls of around 16 would then riddle the broken ore on a kind of sieve, and other girls of about the same age would smash the stone into fist-sized chunks using spalling hammers, weighing between 5lb and 7lb (between 2kg and 3kg). Slightly younger girls would then use a cobbing hammer to separate the ore from the waste rock. The last job, the work of experienced women, was known as "bucking" – smashing and grinding the gravel-sized rock on a metal plate. This was the best-paid job, earning women up to a shilling a day.

But Martha, 20 years old in 1871, was probably not earning as much as that. She was probably using a riddle or a spalling hammer, and her brother Thomas, 16, was probably ragging.¹³

The censuses also hint at the family histories. In 1841, the year of the first detailed census in England, the Jennings family lived at Uny Llelant/Ludgvan. There is no husband listed – the head of the household is 45-year-old Martha (our Martha's grandmother) and she

is a farmer. She has six children living with her, two tin miner sons in their 20s, two “agricultural workers” including Richard, 18, who was to be our Martha’s father, and two children listed as “scholars”.

Ten years later, in 1851, Richard is in his late 20s, married to Honor Chellew, living in St Erth. Richard is now a tin miner, like his older brothers before him. Richard and Honor have four young children, the youngest of whom is our Martha, just six months old.

Another decade on, tragedy has struck the Jennings family. Richard, who would have been around 35, is dead – perhaps in a mining accident – and Honor is a widow. But before Richard died, he had fathered another two sons after our Martha: William (Bill) and Thomas, so that at 33 Honor has six children to provide for. In this 1861 census Honor is described as a “fruiterer”, and the family have moved to Canonstown. Perhaps she is selling fruit from her mother-in-law’s farm.

In 1871 Honor, at 45, is a “householder” in Canonstown. John has left home, but the two girls, Honor and our Martha, aged 21 and 20, are still at home, working as “assistants in tin”. Eighteen-year-old Bill is a letter carrier, but Thomas, 16, is also an assistant in tin.

By 1881 mother Honor is a greengrocer, so maybe she’s been doing that all along. Only two of the children are still at home. One is our Martha, now aged 30 and a general servant, presumably a lighter job than being a tin dresser. Bill, 28, has given up the Post Office - he’s now a tin dresser. There’s no sign of Thomas who would have been about 26, but we know he’s not dead as he turns up in Leadville a few years later.

When you’re trying to piece the family history together and you’re dealing with a working class family who left no letters or diaries, just official records and scraps of stories handed down from mother to child, you can only imagine the details. Why is Martha still unmarried at the relatively advanced age of 30? She worked at a house in Cockwells, just off the busy A30, which links Camborne, Redruth and Penzance. The house is still there – on one of our drives with cousin Thora, mum points it out to me.

“See those gateposts? That’s where Grandmother Cogein worked when she was in service.”

I drive on a couple of hundred yards and pull into the parking area of a pub called the Lamb and Flag. They stay in the car while I walk back down the hill to the gateposts. Clearly no longer in use and overhung with trees, the gateway would have given access to a driveway that curved and disappeared behind more trees. I walk on round a corner and into a lane. Fifty metres along there is an opening, leading into what must have been a farmyard or stable yard, with a stone barn, now done up as an office. No one is around, and so I cross the yard into a

garden. On my right is a large square house with pretty arched windows. Several cars are parked outside. A sign on the stone wall of the barn reads Moorgrove. Back home in Cape Town I google Moorgrove and discover it is a grade II listed building, built around 1820, with drawing room, morning room, dining room and six bedrooms. It is also for sale – for £350 000.

After seeing the house I head back up the hill. Just before the pub is an old ruined building with a council notice pinned to it, asking for objections to its being redeveloped. It is, the notice proclaims, the old Lamb and Flag tin smelter – the lamb and flag symbol being a Cornish tin assay mark, representing purity.

We don't have any details on how Martha and William met. We don't even know for sure that William went to Cornwall after he left Laxey, but it seems likely that he did. If so, how did he and Martha meet? They were both staunch Methodists, so it could have been through the church, perhaps at a social, where the drink would have been ginger beer or lemonade, and there would have been no dancing. Or they could have met through Martha's brother Bill Jennings, who was working as a tin dresser, and was just a year younger than William.

Looking in a mirror, Martha at 30 must have despaired of being married. She was black-eyed, sharp-featured, and fierce – and did not suffer fools. Working in the big house, she'd come up in the world from the days of being a tin dresser, but she wasn't going to meet anyone to marry there. Housework might have taken place in the warm and dry, but offered no independent home or children of her own. So perhaps the quietly spoken, light-eyed Manxman caught her imagination and offered an opportunity.

As for William, what did he see in Martha? Maybe being invited to the family home by Bill for the occasional tea assuaged some of the homesickness he felt for Laxey and his own family. He certainly does not seem to have wanted to stay in Cornwall – perhaps the work wasn't to his liking, or maybe he was restless. Then there was Thomas, Martha's younger brother. Did he write from Colorado to say the money in mining was good, and did William decide to join him in Leadville as the silver boom got under way?

And did William, having crossed the Atlantic and perhaps lonely and at a loss in that rough and ready American mining town, think back to high teas in the kitchen at Canonstown with Honor, Martha and Bill, the fringed velvet cloth on the table, the kettle on the hob, the fittiness – to use an old Cornish word – of it all, and write to Martha along the lines that Thomas Davey had used to his beloved from Australia: "I hope I shall have the pleasure of seeing you... I am still single and shall remain so until you come..."

Who knows? But she went.

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Four years or so later Martha was home from America, with a husband and daughters to show for her adventure. There must have been rejoicing in the Jennings' home when the Cogeens arrived. In the second half of the 19th century so many people left Cornwall, never to come home or see their loved ones again, that it must have seemed like a miracle to Honor to have her daughter home again with two American granddaughters. The family settled nearby, and in time both girls started their lessons at the local board school, a stone building with tall gables that is still there on the A30, although it is no longer a school. One of their teachers was the gimlet-eyed Miss Naomi Bawden, just 16 years old, who many years later would become Ethel's sister-in-law.

By 1890 Martha would have been 40, and the couple were to have no more children. But at this stage they acquired a young lodger, a young boy several years older than Katie and Ethel, who became the son that William never had. Who was he? We don't know – but Ethel never forgot him.

Part Four – Copper, daisies and diamonds

Thousands of Cornishmen went to the Witwatersrand in the 1890s, but their initiative was nothing new; they were following a tradition established over the past half-century, as Cornishmen left their impoverished county for wherever they could make a living. Historian F E Halliday put it well:

It was particularly hard for the conservative Cornishman, so proud of his heritage, so deeply attached to his native county, so ignorant of the world outside, to tear up his roots and leave his home, but for many there was no alternative and after the collapse of 1866 there was a continuous stream of emigrants to the newly discovered mining areas of other continents – the United States, South America, South Africa, Australia – and soon it became almost literally true that 'where a hole is sunk in the ground, no matter in what corner of the globe, you will be sure to find a Cornishman at the bottom of it, searching for metal'.¹⁴

And well before Cornishmen arrived on the Witwatersrand, they had come to the Cape Colony, seeking riches in copper, a metal they knew well.

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In the South African spring my friend Sarah, who makes her living as a gardener in London, comes to Cape Town to see the annual miracle of the spring flowers of Namaqualand. In good years – which we later discover this isn't – daisies of all descriptions, as well as a host of other flowers, burst out of the dry ground in vast sheets, bringing softness and colour to a barren and inhospitable land. She wants to see the flowers, I want to see the old copper mining area, and so we drive up to Springbok, around seven hours from Cape Town and an hour or so south of the Namibian border.

While everyone has heard of Kimberley and the Witwatersrand, few know that South Africa's commercial mining industry began in the 1850s in what is now the Northern Cape town of Springbok. The discovery of copper there coincided with one of Cornwall's regular bust times, and hundreds of young Cornish miners left their homes then, some for Namaqualand.

After the soft greens of Cornwall, the semi-desert of Namaqualand must have come as a shock. But there was copper, and Cornish miners knew copper.

On the side of a hill on the outskirts of Springbok is the Blue Mine, an astonishing grotto-shaped quarry of blue-green rock with walls maybe 60ft high. This was South Africa's first commercial mine, begun in 1852, and although there has been an attempt to make something of its historical significance, all seems to have fallen into disarray. There is a look-out point with a bronze National Monuments plaque and a sign with some details, from where you can look down into the quarry. The quarry is fenced off, but we spot a pair of gates, topped by barbed wire, which hang open, so we walk down the slope, ignoring the "no entry – danger" signs, and into the quarry. Rocks whose colour shades from pale blue to dark green via a rich turquoise lie everywhere. You can see where two adits ran into the side of the hill from the quarry, but they have been cemented up.

A 1998 pamphlet titled "Places worth visiting in Namaqualand" says an amphitheatre is planned inside the mine, but well over 10 years later there is no sign of it.

The land, originally part of Melkboschkuil farm owned by the Cloete family, was bought around 1850 by a pair of Englishmen called Phillips and King for £750. Ten years later the town of Springbokfontein was laid out below. More copper was found at nearby Okiep, Nababeep and Concordia.

Not far from the mine is the town's old cemetery, which dates back to 1860, and a guidebook tells us Cornish miners are buried there. This was probably never the best part of town, and we can't find it. Eventually we stop at a panelbeating shop for directions. A man wipes his hands on a rag and points vaguely up the hill. Workers are walking home to the

township beyond the hill, and we ask one of them, who gestures towards a small dirt track across the veld. We drive as far as we can, and then walk. There is a low drystone wall, with a gateway guarded by a pair of kokerbome. Broken glass litters the stony ground. There are no flowers.

Irregular mounds are scattered around the cemetery, but there are few headstones. Many of the graves seem to be for infants. We find one Cornishman:

Sacred to the memory
of William Tredinick
Born at Parr in the Parish
of St Blazey, Cornwall
Died at Ookiep Namaqualand
October 17 1869
Aged 24 years.
'In the midst of life we are in death'

Later, in the mining museum in Nababeep, I find a picture of another Cornish grave:

Sacred to the Memory
of Thomas Phillips
of Illogan, Redruth
who died July 21 1876
Aged 23 years.
Weep not my Wife and Babe so dear
I am not dead but sleeping here.
I was not yours but God's alone
He loved the best and took me home

It is late afternoon when we leave the old graveyard, and the sky is turning a pale pink. The view down the hill and across the town, is peaceful and even austere beautiful. But it's a very long way from St Blazey and Redruth.

From Springbok we go to Okiep, 5km away, where we're spending the night. We arrive just as the sun is sinking, giving everything a mellow glow, and there, astonishingly, right next to our hotel, is a solid stone Cornish engine house. In better nick than most in Cornwall, it still has its roof, and was built in 1882 to pump water from the mine. Water in this semi-desert landscape? Inside the engine house is a 50-inch pumping engine built by the Harveys Foundry in Hayle, reportedly the only remaining engine of its kind still in its engine house in the whole southern hemisphere. Nearby is a tall brick smoke stack, built by the Cape Copper Mining Company for the boilers that provided the steam for the beam engine.

Okiep locals tell us we'll find flowers in Nababeep – NaBAHbeep, they pronounce it – and so we drive the 20km there the next day. The copper mine closed in 2003, but they

must still be decommissioning it or something because there are several vehicles parked outside what is obviously an office but there is no one on the gate. I see a face at a window as we drive by, but no one challenges us, and we drive up a hill crowned by a tall smelter chimney. Another hill is topped by a headgear, stark and industrially beautiful against a deep blue sky. All around are splashes of bright orange daisies growing out of the gravelly ground, in the bottom of a dry dam, and around a pair of abandoned green wellington boots. There are enormous heaps of what I at first take to be black gravel, but realise are piles of slag, huge dunes of black clinker presumably from the smelter furnace, some chunks of which have a melted coppery sheen. If you bash two pieces together they make a metallic clinking. And among these loose, barren black dunes grow fresh orange daisies, their blossoms bobbing in the wind. Did William Tredinick or Thomas Phillips, nostalgic in the spring, ever look at them and think of the pale yellow primroses starring the green hedgerows of home?

Outside the mine property and across the road from the mine museum, three local men in their 30s and 40s have laid out some pretty stones on a sheet of newspaper. All three have the flushed look of drinkers, and the youngest has a nasty scab on his forehead.

I ask him in Afrikaans what happened to his face. "I went to a party," he says, to general hilarity. "Ja," says one of the other men, "he had lots of whisky." They tell me they all worked on the mine before it closed. Now there is little work in the town, so they fossick out bits of mineral for sale to the pitifully few tourists who visit. One has an Afrikaans surname, but the other two are called Osborn and Young, so even though they speak no English they have English, maybe Cornish, forebears. I buy three pieces of beautiful translucent green stone that look like chunks of frozen sea, which they tell me is fluorspar.

In the town museum, once an old house, are the names of the old local mines, so reminiscent of Cornish mine names: Wheal Alfred, Wheal Georgina, Wheal Julia and Wheal Heath –Wheal De Villiers not so much. Outside, on display in the garden, there is a rockdrill made at Climax in Camborne, the engineering works where my parents met, and an old steam locomotive that used to pull the wagons of copper ore all the way over the Anenous Pass 143km down to the harbour at Port Nolloth. In the days before steam the train was pulled by mules, and the sleepers were laid parallel with the rails so that the mules could trudge between the lines.

The next day is overcast, so there is no chance of seeing flowers. I ring a colleague in Cape Town to find out what you do on a chilly grey day in Namaqualand in flower season. "Stay in and drink red wine," he says. "Or go to the beach."

So we drive over the pass and across the wide coastal plain to Port Nolloth, where the diamond dredgers are at work just off the beach, where a bell buoy rings plaintively across the sparkling sea, and where an undercover detective is having lunch outside a beachside café. We know he's under cover, because the waitress tells us so in a whisper. In a small town like Port Nolloth, where livelihoods depend on diamonds, the locals can spot an undercover detective at a thousand yards.

University of Cape Town

CHAPTER FOUR – GOLD I

Interlude: West Penwith, Cornwall – October 1889

“What is it, my bird?”

William and Martha were on the old sofa in front of the stove in the kitchen. His ma-in-law Honor and the children were in bed, the dishes done, the oats soaking for breakfast. The room was warm, and in this light had a bit of a glow to it. For once Martha was still, and her sharp face was soft.

But all this was not enough for him, William thought guiltily. Cornwall was like home, too much like the island, but not, and why be not-home when a whole new world beckoned? Martha, the dear of her, she’d sensed his restlessness. He squeezed her shoulder.

“It’s no good you being lovey-dovey with me, William Cogeen,” she said. “There’s something on your mind. You’d better tell me.”

He sighed. This would probably not go well. “You know George Hocking down Redruth way?” he said. “His brother Paul is working in the Witwatersrand mines in Africa. George said he’s sending home around around £12 a month.”

Martha exclaimed. “That’s good money.”

There was a pause. Then Martha sat up sharply and shook William’s arm from her shoulder. “William? Are you thinking of going out to Africa?”

“Well...” He could hear himself sounding apologetic.

Martha leaned back again. “Johannesburg? I know they say there’s a treasure of gold there. But Africa? That’s some long way away. There’s wild animals there, you know, lions and tigers and things that could eat you. And blacks.”

“And plenty of Cornishmen too, by all accounts,” said William. “You know, my dove, I’ve mined lead and tin and silver, but I’ve never mined gold. I’ve a fancy for gold.”

“I daresay a gold mine is much the same as the rest,” said Martha. “Dark and deep and dangerous.”

William smiled. “Dark and deep and dangerous, that’s me.”

"Oh, you." She elbowed him. Then she said: "Well, we've been to America, why shouldn't we go to Africa?"

He turned to look at her. After six years she could still surprise him. "You'd want to go too?"

"Well, of course I would. You're not leaving me here stuck like a widow when you're off having an adventure. I was on my own long enough – what's the point of having a husband if he goes off on his own?"

"So you'd come to Africa? With all those lions and tigers? And blacks?"

"And the Cornishmen, don't forget."

William laughed. "You're a good woman, Martha, my love."

They talked it over while Martha made a pot of tea. He would go first, they decided, see how the land lay. Find work, raise their passages, rent somewhere for them all to live.

"Are there schools there?" Martha asked suddenly. Ethel was still only a baby, really, but Katie was five and had just started classes.

"I dare say," said William.

"And shops?"

William sighed. "I don't know, my love. What say we go up to Redruth on Sunday and ask George Hocking what he knows?"

Later, in bed, Martha said: "It'll break Ma's heart, you know. To lose the little girls."

"You're having second thoughts?"

"No, not really. We're adventurers, you and me. But it's hard on the old people, being left behind."

William thought about his mother, Catherine, back in Laxey. She had been dry-eyed when he left for Cornwall, 10 years ago now, but the night before he sailed he had heard her, crying very quietly in her little room. And a couple of years later Harry had left too.

He said: "One day the girls may leave us."

Martha looked at him. "Never."

Part One – In line with the tower

“Good luck, mama,” says the man on the gate at Brixton Cemetery. “And watch out for the tsotsis.”

That’s Joburg for you. Helpful, friendly and dangerous.

We’ve come to Brixton cemetery to find William Cogeen’s grave. He’s been an elusive subject. He never featured in a census after he was 19, and unlike Martha, well remembered by my mother, no living person has ever known William. I’m tempted to say he trod the earth lightly, but since early mining in Laxey, Cornwall, Leadville and Johannesburg caused such terrible pollution, maybe that’s inappropriate. But at this stage I’ve found so little trace of him – just a few stories told by his daughter Ethel. And since he had two daughters, even his surname has gone. It’s virtually gone from the Isle of Man too.

But my friend Heather MacAlister is a genealogist, and she finds the first physical proof of William – his death certificate in the Pretoria archives. It’s a treasure trove of information.

First of all there is the spelling of the name – definitely Cogeen, not Cojeen or any of the scores of variations the Manx genealogist discovered. It confirms that he was born on the Isle of Man to Thomas and Catherine Cogeen, both deceased. It says he died on October 5 1911 at the age of 60 years and two months, and although it doesn’t give a birth date, for the first time I have confirmation that he was born in 1851, presumably in August. His age is an eye-opener – I’ve always been told he died young, but 60 is a fair age for a miner and especially for a Witwatersrand miner.

The next piece of information astonishes me – this is when I discover for the first time that he and Martha were married in Leadville. I had always assumed they had met and married in Cornwall and gone to the United States together. No, Martha had gone off unmarried and alone, but perhaps with expectations.

The certificate names his two daughters, Catherine Hope (born Cogeen) and Ethel May Cogeen. Ethel was 25 at the time of William’s death, and being courted by the Cornishman Jimmy Bawden, whom she married the following year.

It tells us he lived at 40 Doran Street, Jeppe, and that he owned the house. The certificate is signed by Martha, the “Surviving Spouse, Present at Death”. The signature is touching – Martha has used no capital letters, and the careful cursive letters are those of a schoolchild. Also – but maybe this is a sign of the confusion that grief can cause – she has spelt Martha wrong, writing “maratha”.

Attached is a typed copy of the “Last will and testament of me, William Cogeem, of Johannesburg in the Colony of the Transvaal”. It leaves everything to Martha.

William’s estate includes the house in Jeppe, valued at £300, and furniture valued at £26.

Martha may have now owned the house and furniture, but she clearly had little ready cash. The estate’s liquidation and distribution account shows that while Martha paid William’s doctor £1 11s 6d, the undertaker’s account of £15 was paid by Thomas Hope, her son-in-law. The legal fee of £9 1s, payable to the lawyers Dunbar & Gibson, was paid by “the Manx Society”. The combined total of the legal fee and the undertaker’s fee is high – almost as much as the value of the family furniture.

Martha’s signature on the distribution account, dated May 1912, does not repeat the misspelling of her first name, but the writing is shaky, like that of a woman much older than her 62 years.

Later I acquire the minutes of a meeting of the Transvaal Manx Association, held in the Transvaal Arms in Joubert Street on February 3, 1912. It votes her a sum of £10; a month later the minutes reveal she has written to the association to thank it “for its expression of sympathy at the death of Mr Cogeem”.

More than a century later, the Transvaal Manx Association still exists. Its records are kept not in Joburg but in the Manx National Library in Douglas, an infuriating fact I discovered only after I had left the island.

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Now I want to find William’s grave, partly because it’s a century since he was buried and it seems fitting, and partly because I hope it mentions his birth date. I know he’s buried in Brixton cemetery, the second of Johannesburg’s big cemeteries after Braamfontein. It’s a measure of the rapid growth of Joburg that less than 25 years after gold was discovered in 1886 that another huge cemetery was needed.

At some point in the 1960s my mother took Ethel, then in her 80s, to the cemetery to see the grave, which they found with some difficulty. Looking up, Ethel saw the Brixton Tower (today the Sentech Tower) rearing above them and said: “We’ll always be able to find it again – it’s right in line with the tower.”

I’m in Joburg on a warm Saturday afternoon, staying with my friend Miranda Mann. People say Brixton Cemetery can be dodgy, and I’m glad to be accompanied by Miranda’s son Patrick and his half-brother James, two hefty young men. The cemetery is huge and we

drive around it for some time before we find an open gate. There's an impressive stone entrance with an office for the gate man. I tell him which grave I'm looking for, and he asks for the grave number. I haven't a clue.

"Don't you have a register that tells you where people are buried?" I ask.

"Yes, mama, but it's kept at Braamfontein cemetery. And that office is closed on Saturdays. Do you know what section he's buried in? There's the Catholic section, the Protestant section, the Dutch Reformed section, the Hindu section...."

"Well, Protestant, I suppose."

He gestures. "There are Protestant graves over there – and over there. Good luck, mama. Watch out for the tsotsis."

We start searching, but there are hundreds – thousands – of graves, and it's clear that our chances of finding William are close to zero. I look up at the tower soaring above us – and of course every single grave in the cemetery is in line with it. Thanks Granny.

We wander in a tight bunch in the hope of stumbling across the grave, and then begin to drift apart as we read tombstones. It's sunny and warm, with great coppery clouds piling up on the horizon. The cemetery is full of trees, and the grass is mown. But vandals have been in and toppled hundreds of stones – if William is under one of those we'll never spot his name. A porcelain angel over what looks like a child's grave has been deliberately smashed.

When I notice some men sauntering through the cemetery I realise that Patrick and James are nowhere to be seen. Are these tsotsis? How to tell? I crouch behind a tombstone until they've passed, feeling foolish.

Eventually we all find each other and decide to go home. Once again William is being elusive.

Back in Cape Town I phone the Joburg City Parks department, which administers the cemeteries, and with remarkably little fuss am given William's grave number. But it's a year before I'm back in Joburg and have a chance to look for the grave.

This time I'm with my son Thomas. It's a crisp winter weekday morning, and the sky is pale blue. At least we know how to find the gate. When I ask the man in the office where grave number 2723 is, he goes to a large chest and pulls out a shovel.

"Um – I don't want to dig him up," I say.

He looks at me stonily. "It's to look for the grave numbers. Sometimes they are buried in the grass. Sometimes they're gone – people take the lead. Let's go."

His name is Rufus Lekhuane. He gets into our car with the spade and motions me to drive down the main avenue. We stop near a large tree.

He heads off on foot down the row of graves, scraping at the ground with his spade. We pass several large gravestones, and then there is nothing but grass. It's not looking good – the stones here seem to have gone.

"There it is," says sharp-eyed Thomas. And there it is – a small stone set flat into the grass, partly covered by red earth and grass runners. Rufus pulls the grass away so that I can take a photo, and then stands solemnly over the grave, hands resting on the spade and his head bowed.

Next to it is a little stone vase holder, half kilted over. "I should have brought flowers," I say, but Rufus shakes his head. "The people just steal the flowers, mama."

It's a modest marker, but then it was being paid for by William's son-in-law. And that modesty has probably saved it from the vandalism that the more elaborate graves have attracted. The stone reads: "In loving memory of our father William Cogeen Died 5-10-1911 aged 60 years." No reference to a fond wife, and no birth date.

It hasn't told me anything I didn't know, and yet I'm glad I've come. This is the closest I'll ever be to William, and I have a lump in my throat. It's such a long way from Laxey, and the pretty island of his birth, yet it's not a bad place to be – green and leafy. But it's lonely – Martha is buried in Ludgvan in Cornwall, and while Katie and Ethel are both buried here in Johannesburg, they're in a different cemetery.

I drive Rufus back to his office and then return to the grave. Many of the stones in William's row are of those of Cornishmen – Richard James of Marazion, died April 1911; Jonathan George Prior of Illogan, Cornwall, September 1911, aged 67 years; Simon Hooper, late of St Agnes, Cornwall, died at City Deep May 1911, aged 42 years; Richard Howard Semmens, St Just, Cornwall, January 1929, aged 48; Henry Eddy, St Just, Cornwall, January 1911, aged 31 years; Edward Scandling aged 36, from Camborne, died August 1911.

I wrench the little vase holder out of the ground. "What are you doing?" says Thomas. "I'm taking it home with me. I'll put some flowers in it. It'll be something of William."

Part Two – No flash in the pan

In 1891, William was no longer in Cornwall with Martha and the girls, so was probably in Johannesburg by then. Although the city was only five years old and had no rail links with the sea, Johannesburg was already an established town, all ready for its first slump.

The gold reefs of the Witwatersrand stretch for about 64km roughly east to west in layers. They lie at an angle, originally breaking the surface at various points – the outcrops – and then sloping away. One of the reasons it took so long for gold to be found on the Witwatersrand – people had been searching for some years, ever since the strikes at Barberton and Pilgrim's Rest – was that the Witwatersrand gold wasn't found in the form of nuggets or as grains of "colour" in streams. Joburg's gold was in a stony conglomerate of pyrite, sand and pebbles called banket, and you can see chunks of it under the Standard Bank Centre in Simmonds Street, which is built over the old Ferreira Deep Mine.

Thomas and I have taken a walking tour of old downtown Johannesburg with a guide called Jo Buitendach, an archaeologist on a mission to show visitors the inner city's rich mining history.

"Do you want to see an old stope?" she asks casually as we head down busy Simmonds Street, past hawkers, traffic and high-rise buildings.

"What, here?"

She grins, and leads us into the gleaming glass and granite foyer of the Standard Bank Centre. We take a lift down three floors and emerge into a dimly lit room. One wall is solid Johannesburg bedrock, and cut into it is an old mining tunnel. You can see the pick marks on the rock wall, and a cocopan or ore wagon in the mouth of the tunnel waits to be filled. Jo tells us that during construction of the bank centre in 1986, builders found the stope three levels below the city streets. Research showed it had been part of the Ferreira Deep, one of Johannesburg's first deep level – as opposed to outcrop – mines, the property of the Ferreira Gold Mining Co Ltd.

The rest of the room is filled with photographs, mine plans, old picks and other implements found on the site. The dim lighting is intended to represent the kind of illumination the miners would have had, with nothing brighter than candles stuck on to their hats, supplemented by extra candles in sardine cans.

Jo tells us the old mine workings reached a depth of 1 000m under what is now the bank, and the Number One level, 30m down, was fill with concrete to prevent subsidence – and perhaps resourceful thieves using the old tunnels to get into the bank.

This museum is one of the sites, along with Gold Reef City, threatened by the rise of acid mine water, a worrying legacy of the mining industry.

In the middle of the room is a glass case containing chunks of banket, some of it polished to a gloss. A notice says these pieces of ore were removed from the workings below the bank during the stabilisation of the first mining level, and are typical of what would have been mined in the stope in the late 1880s.

There were two types of banket, and both are on display. One is rust-coloured, and this rock occurred above the water table. It has been oxidised, meaning the gold could be relatively easily separated from the surrounding minerals. Below the water table the rock was unoxidised; it is a dark blue-grey and the gold is much more difficult to extract. These differently coloured pieces of ore tell the story of the beginning of mining in Joburg, a story that went from boom to almost bust in just three years.

The discovery of payable gold deposits on the Witwatersrand in 1886 marked a new phase in a process that began in 1853 when the Pretoria Volksraad appointed an official prospector, Pieter Jacob Marais, who had earlier mined alluvial gold in California and Australia. Justifying his pay cheque, in 1854 Marais found gold dust near the Jukskei River, a river which rises on the northern slopes of the Witwatersrand.

But it was to be another 20 years before alluvial gold was found on the farm Blaaubank in the Magaliesberg hills, and drew attention to what became the Witwatersrand.¹

By 1885 there were several farms in the Witwatersrand area, which got its name from a series of clear waterfalls tumbling down from the ridge.² Tony Leyds, who grew up in early Johannesburg and wrote a wonderfully anecdotal *A History of Johannesburg*, says there was one family settled every six miles or so on Doornfontein, Langlaagte, Turffontein, Braamfontein and Luipaardsvlei. Leyds describes the extent of the farms in terms of today's city: "Doornfontein... extended eastward from End Street, through old and new Doornfontein, Bertrams, Lorentzille, Judith Paarl, Bezuidenhout Valley to Bedford View, some six miles.... Langlaagte ... lies west of Johannesburg, and in 1956 the following were on what was the original farm: Fordsburg, Mayfair, Industria, Crown Mines, Consolidated Main Reef Mines, Newclare, Sophiatown (now called Triomf)...Turffontein lay from Commissioner Street southwards to where Robertsham, Rosettenville, La Rochelle and the racecourse lie."³

The main reef was first discovered on Langlaagte, a farm of 2 260 morgen originally owned by Hendrik Albert and Anna Elizabeth Oosthuizen. By the mid-1880s it had been subdivided into four separate farms. Portion D was owned by Petronella Francina Oosthuizen and Johan Hendrik Oosthuizen.⁴

Exactly who found the outcrop is still controversial. In 1941 a committee set up by the Historical Monuments Commission issued a report on the subject, but their conclusions were shot down by various people, including the Afrikaner journalist and historian Gustav Preller. The committee accepted that a South African handyman called George Walker made the first big find, but Leyds writes: “Walker was a canteen frequenter and bluffer; and it would seem that he only started to make his claim later in life when he found it brought him free drinks.”⁵

These days it is more or less accepted that the man who discovered the reef was an Australian mason turned prospector and miner, one George Harrison. He had joined up with Walker, and in March 1886, according to A P Cartwright in *The Gold Miners*, they wanted to go to Barberton but had run out of supplies and money. They reached Wilgespruit, where the Struben brothers, Fred and Harry, were working the optimistically named Confidence Reef (which turned out not to be part of the Main Reef at all) and had set up a stamp to crush ore. Struben and his partner Godfray Lys commissioned Walker to build them a shack, and told Harrison that Petronella Oosthuizen, the widow on Portion D of Langlaagte, was looking for a mason to enlarge her house. The plan was for Walker to join Harrison when he’d completed the Struben shack. By early April both men were on Langlaagte, with Harrison having had plenty of time to explore the farms. Harrison and Walker had also had the foresight to take out a prospector’s licence, running roughly from late May to August 30.⁶

In April there was a “sudden flurry of prospecting activity” at Langlaagte. Cartwright says: “Quite obviously one fine morning someone on one of these farms stumbled over the outcrop of the reef.” On April 1 a man called S Jacobs of Pretoria negotiated with Anna Elizabeth de Beer Mulder (nee Oosthuizen) for the mining rights to Portion B of Langlaagte. On April 12 Gerhardus Cornelius Oosthuizen granted prospecting rights to Harrison and Walker on Portion C, and on the following day the rights to a portion of the same farm owned by Oosthuizen’s son, also G Oosthuizen. In June one L Oosthuizen took out a prospector’s licence for Portion D.

Leyds says that late one afternoon Harrison was walking in the veld when he spotted an interesting looking outcrop. He broke off some pieces and took them to Wilgespruit to the Struben brothers to be crushed and panned, turning up what he believed was payable gold. But by this time old man Oosthuizen had left for his winter grazing in the Bushveld, so Harrison had to go there to tell him of his discovery. On July 23 1886 Oosthuizen wrote to President Paul Kruger from Klipplaatdrif:

Mr S J P Kruger,
Worthy Sir, I let you know hereby that Mr Sors Hariezon [sic] has been here to see me and has told me that the reef is payable, and so I send him to you, then, Mr Kruger, you can talk to him yourself. I remain your friend and servant,
G S Oosthuizen

Harrison went to Pretoria the next day, and although he does not seem to have met the president, he signed an affidavit in English for a Mines Department official:

My name is George Harrison and I come from the newly discovered goldfields Klipriver, especially from a farm owned by a certain Gert Oosthuizen. I have a long experience as an Australian golddigger, and I think it a payable goldfield.
Pretoria 24th July 1886
George Harrison ⁷

Harrison was awarded a discoverer's claim (Langlaagte No 19) while George Walker received only an ordinary claim (Langlaagte No 21), lending credence to the belief that Harrison was recognised as the man who found the outcrop. A discoverer's claim was awarded by the Government Commissioner to a prospector who discovered a new goldfield at least 12 miles away from any other goldfield. It granted the discoverer free rights to a single claim, was not subject to licence dues, and could not expire or be "jumped" – which happened if the owners did not pay the licence fees by the due date; new claimants could then place their pegs in position.

On September 9, six weeks after Harrison's visit to Pretoria, the Government Gazette proclaimed the goldfields as public diggings. By this time the news had leaked out and scores of prospectors were heading to the area. They rapidly inspected the reef at Langlaagte, discovered what they should be looking for, figured that the reef ran east and west, and found further outcrops along a 30-mile line. As early as July 26, just two days after Harrison's affidavit, a petition was sent to Kruger, signed by Colonel Ignatius Phillip Ferreira and 72 others, calling for the proclamation of the goldfields.

Ferreira's petition would have carried more weight with Kruger than Harrison's. Ferreira was an adventurer of nearly 50 when he arrived on the Witwatersrand, having been a member of the Cape Colony's Frontier Police and a diamond digger at Kimberley. After hunting for gold in Pilgrim's Rest he fought in the 1876 Sekukuni Campaign under President Burgers, and also fought during the annexation of the Transvaal. Cartwright says he was known throughout the Transvaal as an honest man and a fearless soldier. More importantly, Kruger respected him.

Ferreira set up camp on the edge of the farm Turffontein, a couple of kilometres from Langlaagte, and began pegging claims, showing “remarkable skill in picking valuable property”. His petition to Kruger contains a paragraph that supports the claim that it was Harrison who discovered the Main Reef at Langlaagte, saying the petitioners “are assured of the fact [of payable gold] both by personal experience and by the prospector of the said farm, Harrison, who has prospected thereon with the consent of the owner”.

The proclamation, when it came, gave the dates that the farms became diggings: Driefontein and Elandsfontein on September 20, Doornfontein and Turffontein on September 27, Randjeslaagte and Langlaagte on October 4 and Paardekraal, Vogelstruisfontein and Roodepoort on October 11.

Harrison may have recognised goldbearing rock when he saw it, but he was no businessman. Almost immediately after being awarded his discoverer’s claim, he sold it for £10 to a Frank Marsden. Within months it had been sold for £1 500 to Benjamin Woollan, the Canadian-born founder and first chairman of the Johannesburg Stock Exchange. Harrison reportedly then set out to walk to Barberton to try his luck there, and was never heard of again. There was speculation that he died of fever near Barberton, or was eaten by lions on the way.

While Harrison was walking away from the Witwatersrand, everyone else was doing the opposite. In *Johannesburg – The Making and Shaping of the City*, Keith Beavon says by August 1886 scores of diggers were camped on the farms about to be proclaimed, ready to stake their claims. Around 230 people were on Turffontein, mainly in Ferreira’s Camp, and another 250 or so on Doornfontein to the west. A third camp to the east at Natal Spruit was known as Natal Camp, occupied by many diggers from the Natal colony. “Furthermore, it was already clear that more fortune seekers would soon be on their way from Kimberley, the eastern Transvaal, other parts of South Africa, and from farther afield. Foreigners and political outsiders, the outlanders so detested by Kruger, would now arrive in battalions.”⁸

Kruger and his citizens certainly did dislike Uitlanders, particularly the British, although this feeling didn’t prevent Kruger from cashing in. In his book *Gold! Gold! Gold!* Eric Rosenthal reports that reefs ran under the president’s own farm Geduld on the East Rand, which he swiftly sold for \$400 000, “a tiny fraction of the untold millions later recovered here”.⁹

Kruger was a devout and deeply conservative man who, with his experience of perfidious Albion, including Sir Theophilus Shepstone’s annexation of the Transvaal in 1877 and the First Anglo-Boer War, retained an abiding distrust of the British. So why were he and

his government willing to proclaim the goldfields, knowing this would amount to an open invitation to scores of foreigners? Like many things, it was a question of money.

The Transvaal had a backward agriculture-based economy with virtually no trade other than ivory, no railways and poor roads. The discovery of the Barberton goldfields in 1882 had pushed the country's revenue to record levels, but this plunged again the following year. Soon the country had a deficit of £64 000 and no prospect of correcting it.

The only solution was the exploitation of minerals, particularly of gold. "There was no other way of balancing the South African Republic's budget than by getting in the revenue that the foreigners who flocked to the diggings would provide." ¹⁰

By October 1886 the goldfields had been proclaimed.

The scene was therefore set for the creation of an industrial city, an instant city with no former history, not deliberately established on a site that was attractive, or chosen for its aspect, or good supplies of water or desirable drainage, or that lay at a cross-roads, or was linked to a major road. All those factors that are usually part and parcel of the urban history and geography of the world's great cities were missing, and their absence would in varying ways undoubtedly bedevil the growth of the city from 1886 onwards: a city whose sole *raison d'être* was an unbridled desire for material wealth. ¹¹

The actual site chosen for what was to become the powerhouse of sub-Saharan Africa was Randjeslaagte, a triangular-shaped government-owned piece of land of around 600 acres, whose boundaries can still be traced in Johannesburg's streets today, being the area enclosed by Commissioner Street, Diagonal Street up to a point near the end of Clarendon Place, where the surveyor's beacon still exists, and then back down via Banket, Catherine and End streets to Commissioner Street.

Before 1891 farms in the old Transvaal Republic were laid out and surveyed by inspectors on horseback riding in one direction for 30 minutes, which would cover about three miles, before turning in another direction. This method led to the creation of left-over ground or "uitval grond", often odd-shaped pieces of land between farms. Randjeslaagte was one of these. Its advantages as the site of the mining camp, from the government's point of view, were that it was fairly central to the proclaimed diggings, was just north of the reef, and it belonged to the government, which would earn an income from the sale or lease of plots. ¹²

You can imagine Paul Kruger and his cabinet rubbing their hands. As Cartwright writes, "the foreigners would arrive in their thousands, pay high prices for mining leases and

buy the farmers' produce. There would be revenue for the State from licence fees and various concessions, plus a percentage of the gold won. And then, when the gold gave out, the diggers would depart and all would be as it had been before.

“It was one of the classic miscalculations of history.”¹³

The mining camp was surveyed and just under 1 000 stands were put up for auction. Because they did not believe the town would last, the government decided to make as much of a killing as it could. Corner plots could be leased or sold for more money than others, and so Pretoria ordered that the blocks be kept small to increase the number of corner properties – another miscalculation, and one that was to lead to major traffic problems a century later.

By 1892, just six years later, Johannesburg's population was 40 000 – which matched that of the rest of the Transvaal. No wonder Kruger balked at giving the Uitlanders the vote. But the government was right about the money. In 1883 the Transvaal's income was £143 323, compared with expenditure of £184 343, a deficit of around £41 000; in 1892 the revenue of the Transvaal had risen to £1.8million.¹⁴

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Things went well in the first few years after the proclamation of the goldfields. By late 1888 there were 688 stamps crushing 15 000 tons of ore a month. A total of 200 000 ounces of gold were produced that year.¹⁵ But what were to prove to be the Kruger government's miscalculations in the future seemed shrewd reasoning in early 1889 when the Johannesburg Mining Camp hit its first major setback. Many people believed the gold bonanza was over.

The problem was the nature of the ore. The conglomerate found at shallow depths was oxidised, crumbly and relatively soft. The early way of extracting the gold was to use the mercury amalgamation method. After the ore was crushed in the stamps it was spread over liquid mercury, which would attract the gold grains. This amalgam of mercury and gold would then be heated so that the mercury boiled off, leaving almost pure gold ready for refining. The left-over crushed rock, now reduced to a sandy substance known as tailings, became Joburg's famous mine dumps.

Amalgamation worked well on the oxidised ore, yielding up to 80 percent of its gold, but as the miners dug deeper the ore became harder. Yields plummeted. And the deeper the pits went, the more costly became the mining process, set against a fixed price for gold. The banks began to call in their loans and overdrafts, and to raise the money people sold their shares. Share prices plummeted and there was panic at the Johannesburg Stock Exchange. Shares valued at £5 could no longer find buyers, even when offered at a discount of 90

percent. Many people sold up and left – it has been estimated that the population of the Johannesburg decreased by a third in a few months.¹⁶ In his book *Out of the Crucible*, Hedley A Chilvers writes: “Everybody said that it was the beginning of the end, that the reef was nothing but a river-bed after all, and that the wisest folk were those who got away quickest. Certain mills closed down. The Market Square... was littered with furniture and old pianos for quick sale. At least one-third of the houses and shops were unoccupied, and families were setting out daily on the long trail back to Kimberley and elsewhere.”¹⁷

Some of the diggers did not have the money to leave, and had to stay and find a new way of earning a living.

The slump was exacerbated by a terrible drought, with mules and oxen dying at their *disselbooms*.¹⁸ The price of forage – the fuel that fed the Transvaal’s pre-rail transport system – shot up along with the cost of food, and hunger loomed. On every street corner the miners were asking: “Why no railways? What about Oom Paul’s ox-transport now?”

The rusty red ore was consumed, and having reached the 37th level the miners were down to the blue-grey pyretic ore. The gold was still there, but it was in hard banket contaminated by iron sulphides, also known as iron pyrites or fool’s gold. The amalgamation process no longer worked.

Salvation came in the form of the MacArthur-Forrest cyanide process, discovered by three Glaswegians – a chemist and two medical doctors – three years before. It involved grinding the pyretic ore to a fine powder, and then mixing it in a solution of potassium cyanide. This would create potassium and gold cyanide, and the gold could then be extracted by adding specially prepared zinc shavings.

News of the process was slow to reach Johannesburg, and when it did there was a lot of scepticism. In April 1890 the chemist, John MacArthur, came to Johannesburg to demonstrate it. MacArthur’s own account of his demonstration at the Salisbury Mine in south central Johannesburg is interesting:

Representatives of the gold industry were invited to check up at every point, and they came prepared to be very exacting; but when afternoon became evening and evening became night, refreshment, recreation and rest became necessary, and so with most of them, watching became whist, and whist became sleep! One of them, Mr Hennen Jennings, [an American] consulting engineer to Ecksteins, was not to be tempted: he attached himself to the experimenter like an old friend. He took nothing for granted, measured every vat and every pipe, sampled the water, the lime, the cyanide, and the zinc to make sure that there was no humbug. For two days and two

nights the trial lasted, until late on the third day when a small ingot of gold was turned out of the little kerosene smelting furnace. It showed a 98 per cent extraction.¹⁹

The cyanide process was a major success. Not only did it work, it worked much better than the old amalgamation process. While amalgamation had an efficiency rate of around 75 to 80 percent on oxidised ores, the cyanide process yielded 85 to 90 percent on pyretic ores. And it was found that cyanidation could be used to rework the tailings produced in the amalgamation process, collecting significant amounts of gold.

Capital started flooding back, and gold yields soared. In 1893 a total of 1 478 million ounces was produced, four times the yield in 1889 when the first pyretic ores were extracted. And there was more good news. Exploratory drilling found payable ores at depths of between 150 metres and 180 metres on the Village Main mine near Marshalltown, and at even greater depths south of the outcrop, as far as 2.6km away.²⁰

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The reef of gold on the Witwatersrand is not horizontal – it slopes from the surface outcrop at varying rates of steepness. Soon the miners had to move on from open-cast quarries and adits to relatively shallow underground mines, rarely deeper than 100 metres. By 1890, writes Elaine Katz in *The White Death*, “... the strike was honeycombed with vertical and inclined shafts haphazardly sunk to one or two levels, and tiny batteries of crushers and mills dotted the landscape like groves of leafless trees”. As well as the stamps there were Cornish pumps to extract water and headgears to haul out men and ore from the deeper mines.²¹

In 1892 an American consulting engineer called J Hamilton Smith, appointed by Wernher, Beit and Co, spent three months investigating the Witwatersrand gold reefs, in particular the Main Reef, and in January 1893 he released his report.²²

“In 1887 the product from the Rand was 35 000 ounces of gold bullion, worth about \$600 000. Since then the yield has steadily increased, until in 1892 it was 1 200 000 ounces, having a gold value of about \$21.25 million. ...it is highly probable that this yield will continue to increase till the product from this comparatively small district will exceed that from the whole United States, now the largest gold producer of any country...”

He said the 11 miles of outcrop making up the “Main Reef series on the central and northern portion of the outcrop” had produced about two-thirds of the Rand’s total product of 3 million ounces of bullion to date. The section was owned by 36 companies, ran nearly east and west, with “a general dip of say 35 degrees to the south”.

Several mines had already reached vertical depths of 600 feet without any appreciable change in the quality of the ore, he wrote, while boring by diamond drills showed the same uniformity down to 1000 feet.

He criticised the Transvaal mining law which did not recognise the American principle of “following the reef” into a neighbouring claim, so that diggers could work only within the vertical limits of their holdings. And he described as men of “wider vision” those prospectors who had not confined their claims to the outcrop but had included land down into the dip, as much as a mile south of the ridge.

“These lower claims are called Deep Levels, and it is proposed to develop them by sinking vertical shafts until the banket is reached, and then to mine the ore as in ordinary British colliery works. Already a number of these shafts have been started...”²³

Development of deep-level mines was relatively slow. As late as 1905 only 20 of the 67 producing mines were deep level mines, and 18 of those were first-row deeps, nearest the outcrop. In 1904 the first-row deeps of the Corner House mining company were an average of 1 200 feet vertical (roughly 400m), a depth described as “moderate”.²⁴

Part Three – The early city

Johannesburg grew from being a camp to a proper town in an astonishingly short period. In August 1886 there were around 600 people camped at Turffontein and Doornfontein, and more were on their way. By October, when the diggings had been proclaimed, the Standard Bank had opened a branch on the Rand, and other Cape Colony-based banks soon followed.

The Bishop of Pretoria, Henry Brougham Bousfield, described how the new camp of Johannesburg changed within months.

I paid my first visit to the Witwatersrand goldfields, I think, in October 1886. At the top of the rising ground... stood 26 or 28 shanties, rather than houses, of which 16 were for the sale of drinks, and a hotel, in the dining room of which I held the first services. On my second visit I found a few mud brick cottages a little below the top of the rise; on a third, houses were springing up here and there in the bottom, and the Sunday services being held in the newly built store. The following May I drove in from the Natal direction, along miles of rising mines, and found Commissioner Street as busy as Kimberley.²⁵

The new town's first local authority, the Diggers' Committee, was sworn in on November 17 1886, and the names of its members read like a list of today's inner-city streets: Ferreira, Harrison, Morkel, Sauer, Fraser and Eloff. A year later this committee was replaced by the Sanitary Committee, which focused on public order and sanitation, but did not have control of the police – they were run from Pretoria.²⁶

Tony Leyds, who lived in Johannesburg from boyhood in 1892 and was the nephew of one of Kruger's closest advisers, writes that the growth of Johannesburg was "one unending anxiety" to the Pretoria government. "They had for years been accustomed to governing a pastoral people, and now were faced with a multiplicity of problems connected with a congested, foreign and often lawless population."

The minutes of the Diggers and later the Sanitary Committee revealed what Leyds called the "braking effect" of the idea that the gold would not last. This meant wood-and-iron buildings were erected when a proper brick building would have cost little more, or that streets remained unpaved, or that for years there was no proper effort to provide a decent water supply.²⁷

At first shares were traded in bars and hotels, but by late 1887, a year after the gold strike, Benjamin M Woollan, the Canadian who bought George Harrison's discoverer's claim, built the first single-storeyed stock exchange on the corner of Commissioner and Simmonds streets, and became its chairman. By the following year the exchange had outgrown its building and chains were then put across Simmonds Street so that business could be conducted outdoors "between the chains". A London journalist wrote in late 1888: "Hundreds of brokers, buyers and sellers are always to be found there, the din of business bewildering to the passersby...." ²⁸

Free stands were allocated in the new town on which churches could be built. A deputation of religious leaders, which included a Jewish rabbi, went to see Kruger to be told that each church denomination would be allocated four stands, except the Jews, who would get only two. When the rabbi protested, Kruger is said to have replied: "Because you use only half the Bible."²⁹ In September 1892 Kruger was invited to Johannesburg to open the Park St Synagogue near Park Station. He declined to cover his head, as is the Jewish custom, and famously declared: "Ik verklaar deze kerk nu open in de naam von onze lieve Heer Jesus Christus. Amen." ("I declare this church now open in the name of our beloved Lord Jesus Christ. Amen.")³⁰

A block of 12 stands was also set aside for a graveyard – the first burials took place in Braamfontein Cemetery in September 1887. The Rand Club opened the same year. ³¹

Outbreaks of an illness known as camp fever led to the erection in March 1888 of a handful of tents on a rise to the north of the town, now called Hospital Hill, where victims of fights and mining accidents could also be treated. Eventually sufficient public funds were collected to build a small galvanised iron building on the hill on land donated by the government. This became the hospital known for a century as the Joburg Gen – now the Charlotte Maxeke Johannesburg Hospital.

Charles du Val was a sophisticated Manchester-born entertainer whose touring show opened at Johannesburg's Theatre Royal, a single-storied prefabricated wood-and-iron theatre, in May 1888. He had an arrangement with Dublin's Weekly Irish Times to write a series of articles on his travels, and four of them were about Johannesburg.

In his piece dated September 8, 1888, when the city was just two years old, he notes that Johannesburg had little to offer, other than gold.

Not a tree or shrub, not a patch of green, not a blade of grass, naught but an eruption of buildings scattered over an area fully a mile and a half long by an almost equal distance wide; its so called streets in some cases, mere tracks, the squares, sandy deserts rising with the wind and forming dust storms, which at times exclude the light of day, and yet, with all these drawbacks, to which might be added expensive and inefficient dwellings, indifferent sanitary arrangements, and a limited and unwholesome water supply, there are congregated in Johannesburg today from 6 000 to 7 000 people representing all sorts and conditions of men, races, creeds, trades and professions. Many have brought their wives, and where they are possessors of such luxuries, their families also, and they range from the full-pursed capitalist, who is adding more feathers to his well-made financial nest, to the mechanic and the tradesman...

There were also, he notes, "probably 500 drinking bars and canteens", despite an annual licence fee of £50 charged by the Transvaal government, and several "splendid stores, some of which are second to none in South Africa", complete with plate-glass windows and "reflector lamps".

And he adds: "It seems incredible, standing at the head of the Market square, ... crowded as it is with Boer waggons loaded up with wood, forage and mealies, to realise that so short a time as eighteen months before you could have dined by yourself on the open 'veld', its sparsely distributed grass for a table-cloth, and the *piece de resistance* of your menus, a slice from off the antelope, who a few hours before had bounded over the plain."³²

Du Val took a keen interest in the developing town and its problems. He was unimpressed by the quality of the white miners, and it could have been remarks similar to these that attracted people like William Cogeen to head for the goldfields a year or two later:

...[The black mineworker] digs merrily away on the Main Reef, the dynamite charges explode sending out bucketfuls of 'Banket'; the windlasses whirl round as the boxes descend the shaft, and the mining overseer, who 'bosses up' the Kaffirs, smokes his pipe in a sort of regal state. This latter personage feels much more dignified on the four or five pounds a week he is earning, and his grand sense of his superiority over the Kaffir, than he probably did in Ruthin or Penzance, presuming he is a Cornish miner, when he toiled hard, month after month, for less money than he now earns in a week. There is ample room for improvement amongst the white men employed on the 'Rand'. There are far too many good-for-nothing, ignorant, unskilled fellows earning wages that could command the services of highly educated people in England...

The difficulties which the 'Rand' goldmining companies have to contend against in the matter of transport to the scene of their operations, scarcity of the Kaffir labour supply, dearness of fuel for their engines, paucity of water for their washing up, should be quite enough to make their directors tremble and their shareholders quake without the addition of useless overseers, mostly overpaid... This digression I have made in order to show my readers that a field for reliable, skilled English miners, at remuneration never dreamt of them by at home, is now opened up in the Transvaal. All that they are required to give in return, being a fair day's work and about ordinary sobriety in their conduct." ³³

With the price of gold fixed, any increase in production ate away at profits. Du Val reckoned that the price of coal at 16 shillings a bag was a problem likely "to cripple any industry depending on steam power as its motor". Coal, like everything else, was still brought to the Rand by ox wagon, because the Transvaal government was opposed to a railway. This was partly because it made so much money out of wagon traffic, and to protect the the transport riders and Boer farmers bringing their produce to market.

Du Val pondered the fact African miners tended to go home in the middle of their period of service, and concluded this was a result of cold Highveld winters and poor housing. "It is one of the crying evils in management of the mines at the Rand, this want of care exhibited for the natives, who do all the heavy labour for the gold winning. There appeared to

be little heed given to their housing or clothing, with the natural result that the ‘boys’ elected to go where at least they could be warm day and night”.³⁴

Despite the fact that earnings from gold mining had solved the country’s financial woes, the government suffered from “a want of enthusiasm” for the industry. The introduction of railways, a reduction in claim licence fees and other measures could have made things easier for mining, but “the Volksraad, with a crass stupidity which is it impossible to understand, seems to revel in passing measures of a childish character...”

But he accepted that the Rand was a “great” goldfield, and said he had seen “its golden output by the thousand ounces”, a reference to a display of heaped gold bricks weighing 3 500 ounces (about 110kg) which represented the first output of gold for H Eckstein and Co.³⁵

Du Val’s concerns were not all serious, and Johannesburg could still impress him. On October 13, 1888, he wrote of horse races being held to mark Queen Victoria’s 69th birthday, and the equivalent of a 21-gun salute using 21 detonators fired by time fuses, with the audience shouting their hurrahs and singing God Save the Queen. He was struck by the fact that Johannesburg seemed virtually an English town “in the heart of Boerland across the river Vaal”. There were roughly 7 000 to 8 000 people present, “...a wonderful show for a place situated nearly 300 miles from a railway, with no towns of importance near, and which had no existence itself less than two years before.”³⁶

People and equipment kept pouring in. In November 1888 the Eastern Star, the newspaper born in Grahamstown that had seen opportunity calling and had moved its operations to Johannesburg (where it later renamed itself The Star) reported: “Some 365 wagons have left Ladysmith during the past three days for Johannesburg. This is said to be the largest up-country traffic on record.”

Five months later, on April 10, 1889, the newspaper reported: “No less than 874 wagons and carts passed through Klerksdorp from Monday to Saturday last week en route for Johannesburg and other Transvaal towns. Returning vehicles, uncounted, must have gone into three figures. On the route from Aliwal North the traffic is also very large, while that from Natal exceeds both.”³⁷

Johannesburg was flourishing, but tensions between the Pretoria government and the people on the Rand were being felt. Grievances included the lack of railways, and the concession system whereby government associates had the exclusive right to supply necessities such as water, gas and – most bitterly resented – dynamite, and set their prices. There was also some muttering about the franchise; until 1890 a foreigner could acquire

citizenship of the Transvaal after living in the country for five years, but in that year it was increased to 14 years.

In the same year Kruger visited Johannesburg and addressed people in the hall at the Wanderers Ground.

Chilvers writes: “[Kruger] saw before him a great multitude demanding railways – a threat to his burghers [chiefly transport riders]; a crowd demanding the abolition of concessions – a threat to his friends; and worse than all demanding the vote – a threat to the independence of the country.”

Kruger began: “Burghers, Afrikanders and uitlanders”, which irritated the largely British audience, one of them calling out that he was as South African as the president. Not used to being heckled, Kruger answered: “Blij stil. I have no contempt for the new population: only for men such as you.” This infuriated the crowd who started singing *Rule Britannia*, and the president stalked off the platform, escorted by the landdrost, Captain Carl von Brandis.³⁸ The president did not return to Johannesburg for five years.

Part Four – “The Downs without a blade of grass”

Around the time that Kruger was visiting Johannesburg, a Manxman able to sing *Rule Britannia* with the best of them was preparing to join the “uitlanders”. William Cogein, shy, moustachioed, around 40 years old, was ready to seek his fortune on the fabled Witwatersrand – or at least enough money to make a living and send for Martha, Katie and Ethel.

Members of the Cogein and Bawden families regularly turn up on shipping lists, travelling between England and America as well as England and South Africa, but true to form, William’s name is not to be found. However his arrival in South Africa must have been around 1890.

He left no description of his long journey from Cornwall to Johannesburg via Plymouth, Cape Town and Kimberley, and no idea of his first impressions of Africa. But two brothers from the Eastbourne area of Dorset, Fred and Jack Turner, sailed for South Africa aboard the German in 1891. The sons of a Baptist minister, they wrote regular letters home which their mother copied into an exercise book. Years later this record of their early months in South Africa was sent back to the brothers, who had settled at Loeriesfontein in Namaqualand. Fred Turner’s great-granddaughter, Charlotte Turner, lent me copies of these

letters which give the lively views of two young Englishmen of their adventure to a new world.³⁹

Jack wrote on Friday June 5 1891:

We are now 1 000 miles from the Cape. We expect to reach there Sunday afternoon. Everybody says that we had a wonderful smooth voyage.

We enjoyed our visit to Tenerife very much. They charged two shillings to take you on shore. It is a Spanish settlement, with long rows of white houses with green blinds.

The Spanish girls were peeping from behind the curtains at us as we marched up the streets. First we made our way to the market, where we purchased some very cheap fruit, which we found very refreshing. Some of the ladies of the party wanted straw hats. ... I was glad to get Fred back to the ship. He seemed inclined to get into trouble about Spanish girls. The men are so jealous.

A few days later they arrived in Table Bay and found temporary lodgings in Bree Street. Jack wrote: "Capetown is a lovely place. Locked in by a magnificent chain of hills, white houses with green blinds. The weather is perfect, though in the depth of winter like August weather, they say. The heat is intense in summer, that is in January, the hottest month of the year here."

The brothers soon moved to new lodgings in Plein Street, and Jack wrote: "We have been looking for a room all this week and have found one for 4/- each a week. A rare place, I should just like you to see it. Boarding houses certainly pay here... Every ship brings young English fellows out with only a few pounds."

Cape Town residents certainly did make money – and were not above a touch of sharp practice. Jack wrote: "We took rooms at Sackville Street, but it proved a failure. The landlady let us very nice rooms, but when we went to the house with our luggage late Tuesday night, she put us on the landing with a partition about 5ft high only, with nothing on the beds, no looking glass. Fred's bed let him down twice in the night. We had a rare laugh about it. She refuses to do any cooking for us and I have to get up at half past five to go to work."

They enjoyed exploring their temporary home. Jack wrote: "We went for a sail last Sunday across the bay. It was beautiful. The bay is almost land locked with Robin [sic] Island and the mountains all round, with Table Mountain in the rear with such a pretty blue tint, hardly a ripple upon the water. It is very lovely. I am going up the Table Mountain this afternoon."

Fred, who had found work with a draper, wrote:

The only thing that disappoints me is it is too much like England. I am bothered if there is any difference between a draper shop in England and Cape Town. Nearly all your customers are black girls. The way some of these black girls dress would make you laugh. All different colours of the rainbow and coloured silk handkerchiefs round their heads. Their skirts sticking out all sides.

Jack described a walk taken by Fred. "I have a large red cactus on my dressing table. I wish I could send it. Fred picked it this morning while preparing his Sundayschool address. He told me that he sat down on the mountain and was covered with ants. He had to take his coat off and it took him a quarter of an hour to get them off. Sat in another place when he again was covered, so he climbed a tree, but there were ants too... it has given him an insight into outdoor life."

The brothers also climbed Lion's Head. Jack wrote:

I climbed to the Lions, a mountain of considerable height. A very hard climb. I was rewarded by a magnificent view of the Town, Robin Island and the Bay and adjacent mountains. It was indeed a beautiful sight. As far as I could see on the right were mountains, the town lying in the hollow. There is a chain of hills all round Cape Town far away on the sea. The sun made a golden pathway and I felt that I could send a message of good cheer along it to you from our new home.

The brothers heard of a gold strike near Prince Albert in the Karoo and decided to seek their luck. They had brought cutlery and knives with them to Cape Town to sell, and raised £15. Jack described provisioning their expedition:

We paid £4 10s for a tent, about £1 15s for provisions such as potted meat, cornbeef, pick and shovels, £2 for kettles, plates and other necessities. ...Our tent is a large piece of canvass, which is covered over sticks driven into the ground (5ft high) under which we shall crawl at night and which can be rolled up and carried at pleasure. We take some stuff called mealies, from which bread can be made....

You may think going is a risk, but it is not, as it is from the mines that Africa draws its wealth and at it we shall work, and if we are fortunate we shall start a store with the money we shall make....

I need not say that you and our home are continually in our thoughts and we shall do all in our power to bring you to us as early as possible.

The Turners' Cape Town interlude ended with Jack's note: "Tonight we start. We are provisioned for a month. Intense excitement prevails. You should see the big swooping hats we have on just now."

They set off by train for Prince Albert in pouring rain, and early the next morning they finally saw country very unlike England. Fred wrote: "I don't know how to describe it. The nearest to it in England would be the Downs without a blade of grass upon it, covered with stone and little scrubs about four yards apart. You cannot imagine animals existing on it."

They alighted at Fraserburg Road station, near today's Leeu Gamka, a desolate spot with a couple of huts at the station and no houses for miles. It turned out the diggings on the farm Spreeuwfontein were about 24 miles away. The driver of the post cart, a man called Miller, offered to take them and their luggage for £1 10s each, but the brothers had only £2 left between them, and there was no one else to ask. A fellow traveller with little luggage decided to walk, but what with their tent, tools and food, the Turners' bags weighed around 150kg. Their solution, good Baptist boys that they were, was to pray.

Clearly Fraserburg Road was not quite as desolate as the brothers described, because Miller went off for a drink, coming back a while later with a new proposal: he would take a group for £1 each on his three carts. The brothers agreed, and Miller went off for another drink. Then a pair of Dutch farmers arrived prepared to take the miners for 15 shillings. When Fred passed this information to Miller in the bar, he was outraged, used some choice language, and said he would take everyone for seven shillings and sixpence, less than a third of his original offer. "You may guess how pleased we were." They finally set off about 3.30pm on what was to be an eight-hour journey. Fred wrote:

Miller was drunk by now. He drove the cart we were in. Two splendid horses. He immediately lashed the whip and they galloped off. The road was in a very bad condition. The sides of the road were masses of broken rocks. He did not keep the road but went on at a mad gallop over these rocks. Jerk, jerk went the cart. We expected every minute to be thrown out. A colonel who was in our cart wanted to drive, but he only swore at him and said think I don't know my horses. I was sitting behind Miller. When he slashed the whip it caught me on the ear, then another, which sent my hat off. Then he turns round cursing at me and says he is not going to stop the cart and spoil his horses for a hat. But he did stop and one of the fellows got it for me.

We arrived at 11 o'clock at night. A fellow joins us in our tent and provisions and pays half the expenses, so we shall be all right. There is a cart going to Fraserburg

Road Station so this letter must go. We are very happy, and comfortable. We are entirely on our own hook, provisioned for a month. We take out our claims on Monday 12 o'clock at night. We have some very hard work before us with pick and shovel and if the mine turns out well, we shall too.

There was a brief rush at the Spreeuwfontein diggings, but despite pegging "very good" claims, the brothers found mining tough going. In early August Fred wrote: "We find it very hard work with the pick and shovel, but still harder the panning for the gold. It makes your back ache."

Around the same time Jack wrote: "Our chief hope lies in a company buying us out, as we cannot get the dynamite and pumps and pay blacks to work for us, though for the matter of that they will work for 5 shillings a month plus food. Fred is a very good panner out... I hope we shall be successful and be able to come home rich men and to help you."

They never became rich men. Some years after their arrival in South Africa they joined the Bible Association and travelled around the country by donkey wagon selling Bibles. They ended up in Namaqualand where for £37 they bought some land that eventually became the present-day village of Loeriesfontein, and where a Turner descendant founded the windmill museum. They both married Afrikaner women, and between them had 16 children who were sent to school in Cape Town. Today Fred's grandson, Edward Arthur Turner, runs the famous Muisbosskerm restaurant on the beach at Lambert's Bay.

CHAPTER FIVE – GOLD II

Interlude: Johannesburg – August 1890

My dear Martha,

I enclose my first money order for you. I have found a position on the Ferreira mine, which is just south of Jo'burg, near the Market Square. The square is big, with many wagons coming in every day from the country selling forage and food. It seems you can buy almost anything there.

Do you remember when we first talked about Jo'burg as they call it here, and how they said there were many blacks here? There certainly are. They are not black really, more brown, like chocolate. They have tight curls on their heads. Englishmen call them Kaffirs or boys, even though they are grown men, but simple, like children, or so Samuel Alderson, from St Just, tells me. He is also at the Ferreira, and I am sharing a room with him behind a hotel in Anderson Street. He has been here for a year, and knows the ropes.

On the mines here the black boys do all the lashing and tramping and the hammering. We do the blasting; the government does not allow them to blast. Blasting of course is very responsible work. Apart from the blasting, the Englishmen's main job is to supervise the boys. It is a strange way of working, to my mind, but easier on us.

The boys are very different from the Englishmen. For one thing they do not wear much in the way of clothes underground, just a loin cloth. This is all very well in the stopes, but before you go down in the cage you see them on top, waiting their turn, shivering with the cold. Although this is Africa and you would think it would be hot here, it is bitter in the mornings and evenings, we had ice on a bucket of water we left outside last night.

If you need something from the store you send a boy to fetch it, you do not fetch it yourself. I was told that a bit sharpish. Sam says if you are to get on with the natives you have to be firm with them. If you are familiar with them, your power over them is gone. He says if a native has done something wrong you can whip him and he will respect you for it. But he will not forgive you if you whip him without cause. I can't see myself whipping them, or anyone.

Unlike the white men, the boys sleep in compounds, big rooms shared by many. They steal the candles they're given underground to light their rooms at night. How do they manage underground without a light, it seems very dangerous to me.

They like to sing and dance, and tomorrow, which is Sunday, we are going to see them. I don't know where they get the strength after a week's work, but Sam says they are very lazy and so have strength to spare.

There are a lot of Cornishmen on the mine, and I met Paul Hocking from Redruth the other day. I was saying how cold I was finding it, but he says I must wait for the summer when the weather is perfect. Last Sunday we had gone to have our dinner in a restaurant and he was there. The food was better than Sam and I make. I do miss your food, my dear, and all the things you did for me. Now I pay a black boy to do our washing and sweeping. My good shirt came back from the wash with two buttons smashed, Sam says they beat the washing on rocks in the river.

Now that I have a proper position I shall send you money each week, of course, and save some so that you can come. After living at home with you and the girls and the Boy, I find this is a very manly place – there are few white women here and there is none of the softness that women bring. I do miss you very much.

Give the children a kiss from their Da.

From your loving husband,

William

Part One – Getting there

For William Cogeon, miner and traveller, the first departure was probably the hardest. Leaving his mother, brothers and sisters behind in Laxey, leaving the glen that wound down to the sea, leaving the island and the only life he had ever known, pretty sure that he would never see any of them again, must have been tough. After that, leaving Leadville for Cornwall would have been relatively easy, despite the fact that Harry was staying behind, because Martha and his girls were coming with him. But, as ever, times were hard in Cornwall, and in 1890 the news from Johannesburg was so alluring that he must have been itching to go. Martha and William were never ones to sit back and accept their lot; if they could improve their lives they would.

William would go on ahead and get settled, then send for his girls. But the fact that they were being sensible didn't diminish the pain and uncertainty their choice created. With distances so great and the dangers of mining so patent, it must have been hard for William and Martha to say farewell, not knowing how long they would be parted. And while William, no longer young at 40, laid the foundations for a new life in a strange land, Martha would become a single mother, caring alone for her two little girls, aged six and four in 1890.

So by tradition, shortly before William left for the Goldfields, the whole family got dressed in their Sunday best and caught the train into Penzance to the studio of William Richards, Photographer, in Queen Street, for a family portrait. If, God forbid, something went wrong, they would have a photograph to remember each other by. They all look so bleak in the picture, but perhaps that was because you weren't meant to smile for the camera in those days to avoid moving and blurring the image. I like to think that afterwards they had a bit of an outing in Penzance, going for an ice cream and a walk in the Morrab Gardens.

It's a long way from West Penwith to Johannesburg even today; in those days it took weeks. William would have caught the train from St Erth to Plymouth and then boarded his ship. The journey would have been anything but comfortable – it wasn't just rigors of the wagon or coach journey from Kimberley to Johannesburg that lay ahead – the voyage from Plymouth, which lasted about 18 days, would also have been a strain. A history of the Union-Castle shipping line, *Union-Castle Chronicle*, says that at the height of the rush to Johannesburg, miners and "adventurers of other kinds" were prepared to accept any shipping berth available. They slept in bathrooms, passageways, and even on tables in the dining saloons. Tickets were endorsed: "To sleep where any place can be found by the Chief Steward".¹

As late as September 1892, when the first railway reached the Rand from the Cape, the journey to the gold fields was a difficult one. The discovery of diamonds in and around Kimberley in 1866 meant the railway had been extended to Wellington and then to the diamond fields, but Kimberley was the end of the line. You had to disembark and take a wagon or coach for the last 285 miles (about 450km) to the Witwatersrand. Travelling by coach was quicker than by wagon, but both were hideously uncomfortable.

It is astonishing, though, how efficient that early transport was. For the first six years every single item of equipment on the Rand, from a prospector's pick and pan to the stamps and mills, had to be carried to the goldfields by ox-wagon from the railheads at Kimberley or Ladysmith.

In 1886 the Struben brothers' five-stamp mill at Wilgespruit was the only one within any distance of the Witwatersrand, but Cartwright reports that within a year around 500 stamps were at work on the reef and another 500 had been ordered.

A mine owner called William Knight obtained the mining rights on the farm Driefontein, near present-day Germiston, from the Struben brothers in 1887. In a letter quoted by Cartwright he writes:

By the time we begin working we shall have laid out £43 000 in land, machinery and preliminary work.

Our battery is a 100-stamp one from Jordan's and we have it nearly all here, there being yet to come about 30 or 40 loads out of 200. The machinery has come very well by Kimberley. It takes from 14 to 35 days according to the weather... There will be two 60-horse-power engines, neither of which has come here yet. It will be three months before we have 100 stamps at work. ²

Two English brothers, John and Fred Gibson, came to South Africa in the early 1870s, shortly after the discovery of diamonds, and started the Red Star Line, a wagon and coach transport business between Wellington and what became Kimberley. In his book about the Gibson brothers, historian Bernhard Louw says while they were not the first transport riders to Kimberley, they were responsible for reorganising the service and making it more professional, offering non-stop travel and leaving Wellington and Kimberley on time regardless of whether or not they were fully loaded with passengers. Other companies would wait till they had a full complement, which could mean a delay of weeks for travellers. All the way to Kimberley there were stations or stages, roughly six to eight miles apart, with

relief teams, fodder and food, equipment to maintain the harnesses and vehicles, and spare parts. The brothers also established a pont across the Orange River near Hopetown.

But the railway was catching up – by December 1883 it had reached the Orange River, where there was a delay owing to the need for a railway bridge – and it finally reached Kimberley in November 1885. The following year gold was discovered on the Witwatersrand, granting the coach and wagon transport business another six years of life.³

William Cogeen would not have enjoyed the gruelling journey from Kimberley to the Witwatersrand. In November 1889 a young Londoner, Henry Tebbutt, was hired by the Standard Bank to work in Johannesburg. From Kimberley he boarded a non-stop Gibson's Coach for the Goldfields.

There were 12 inside passengers, and two outside, not counting the driver and his assistant, and the coach, which had no springs, was pulled by 10 or 12 mules. The journey was hot, dry and dusty; the food, often stewed buck, was "most unappetising"; and the jolting along the unmade track across the veld was "indescribable". The passengers dozed when they could.

"We arrived at the Golden City about midday, the journey from Kimberley to Johannesburg taking two and a half days, or to be exact, about 55 hours..."

He added: "The heat, smell, dust and general inconvenience cannot be described..."⁴

If getting to the Witwatersrand by coach and wagon was uncomfortable for men, it was even worse for women, taking into account the clothes of the time and the toilet difficulties. Tony Leyds's mother, Mrs JJC Leyds, described her journey by wagon in a letter to her mother-in-law in Amsterdam in September 1890. She was the wife of Johnny Leyds, who had joined his older brother, Willem J Leyds, the Transvaal State Secretary, in the Transvaal.

Unlike Tebbutt, Mrs Leyds travelled in a wagon, and the journey from Kimberley to Johannesburg took 10 long days. Mrs Leyds had three travelling companions, a woman called Louise Paf who was on her way to Pretoria to join her husband, Captain Paf, in charge of the State Artillery in Pretoria. There were two bachelors, one named Jacques, an 18-year-old they dubbed the "gentleman" because of his kid gloves, and Mr Pet, a commercial traveller. The four hired a sprung mule wagon for a fare of £4 each. The fact that the wagon was sprung "made a big difference to our comfort on the rocky uneven tracks. Even then it nearly 'broke us on the rack'."

They were accompanied by a white driver, and two coloured assistants, Harry and Solomon, to handle the 20 mules

Before they left busy and “frightfully dusty” Kimberley, they stocked up on supplies for the journey, including tins of corned beef, salmon, jam and condensed milk, tea, cocoa, sugar, cheese, polony, a bottle of piccalilli, bread, a dozen eggs and packets of Huntley and Palmer’s biscuits. They also bought a knife, lantern, candles, six enamelled plates, spoons and forks, and a wash basin, and boarded their mule wagon in the town’s Market Square.

The driver, Jacques and Mr Pet slept under canvas on cases in front of the wagon, the women in the rear, while the two coloured men “just slept on the earth under the wagon, rolled up in their blankets”.

Like Tebbutt’s, their journey was an ordeal:

I often feared that the lumbering wagon would turn over, but that never quite happened, but often I would be hurled from one side to the other, and the half-used tins of condensed milk on top of us, very dirty.

The dust, it was indescribable, our ears, throat, hair, clothes, everything was grey with dust, or coloured terracotta. We speak of being, not frozen stiff, but dusted stiff, and wonder whether we shall ever be clean again. There was nothing to be seen, the country is flat. In the morning, to get warm, we walk along with the wagon, but in the middle of the day it is too hot. You have no idea of the big difference in temperature between the night and day.

We usually left about 4 or 5 o’clock each morning, once at 3 o’clock, and travelled until 6 or 7 o’clock, when we stopped for the mules to drink.

I slept with Louise in the rear section which is divided from the men’s by a canvas roll. The bench is so narrow that I am always stiff and rise feeling I have rheumatism. Jacques and Mr Pet sleep in front. The first night Pet stood guard with his revolver. He only did that the first night, but all was so safe that the next night he just fell asleep like the rest of us.

When we rose the men went to the vleis or pool or river for water, and we made our toilet. There is no chance to undress, so for days we had our clothes on day and night. We only took off our boots. After a few days we were aching to take off our corsets.

“After we had bought our washbasin the men brought water for us to wash our faces and hands, the water was always cold as ice.

Then the Kaffirs made a fire and as soon as the water boiled the tea was thrown in. In the afternoon we made cocoa for a change. Eating from our tin plates was not bad, but drinking from the mugs I could not get used to.

Relieving themselves on the journey was a problem.

For days we had no 'convenience'. This was not so bad where there were bushes, but on the open veld we had to walk a long way to get behind a rise. Fortunately the men walked in the opposite direction out of sight, but then we two women felt afraid as we were so far from them in case one of us was bitten by a snake or scorpion. We were not afraid of Kaffirs as they were always very respectful. At Bloemhof we bought bread and asked a woman for the WC. 'Wat is dat, 'n WC?' We explained and she asked what was the matter with the veld. This has been the worst part of our travels.

Early one Sunday morning the wagon got bogged down in mud, and despite swearing and shouting and pushing and whipping of the mules, could not be budged. Digging under the wheel and laying planks didn't help either, and eventually the wagon had to be unloaded. The delay cost the travellers six hours. It all happened again the next day, but "this time we had more experience" and they were delayed by only 90 minutes.

Mrs Leyds writes that most of the river beds were dry, "and the white driver cursed and swore at the Kaffirs for taking a road which led to the mud. As if he could not have seen it himself".

They crossed the Vaal by pont, which Mrs Leyds described as worn, dirty and seemingly unsafe. "The Kaffirs pulled the wire to pull us across, and they sang and danced in unison."

They were charmed by Klerksdorp, "such a pretty sight in a dale between the hills", and in Potchefstroom they were able to have a bath. "We paid three shillings each for one. It was a wobbly bath standing unsupported in the middle of a room, but I managed. It was a great pleasure to get my clothes off in which I had slept for a week, and be clean and have a change of underwear."

In villages they saw chickens, ducks and pigs, but in the veld just vultures and "hundreds of skeletons of oxen" including a team of 12, two by two, that had been struck by lightning. "These hundreds of white ribs and vertebrae and bones and legs sickened me at first but one soon gets used to the sight. We saw many buck."

Finally on July 5, they arrived in Johannesburg where Mrs Leyds was reunited with her husband. Unlike the Leyds', the Pafs's reunion was brief – Louise Paf died of a scorpion "or similar" bite just a few months after her arrival in the Transvaal.⁵

Today there is a “Bali” shop on the national road near Riversdale in the Western Cape that sells furniture and assorted Indonesian tat. Outside on display are the remains of a pair of century-old wooden wagons, quietly rotting away in the parking lot. I’d never noticed them until I read Mrs Leyds’s account, and then inspected them from every angle. Both have iron-shod wooden-spoked wheels, but one has sets of leaf springs which look remarkably ineffective. Give me the rigours of 21st century economy class air travel any day – at least no journey lasts longer than 24 hours.

Part Two – First impressions of the city

Only Leadville could have prepared William for Johannesburg. Johannesburg was raw, bustling, makeshift, and crowded with people from all around the world – English, Boers, Jews, Arabs, Indians, Africans, coloureds or what were known as “Cape boys”, and even Chinese. And the search for gold dominated everything, from the physical space to people’s thoughts, dreams, and even prayers. Charles du Val recounts a story about a Salvation Army officer asking her congregation: “What do we want here? What do we chiefly desire? What do we earnestly pray for?” Silence, until a prospector yelled out: “What do we want and pray for? Why, eight ounces to the ton!”⁶

William would have arrived in the Market Square, the vast dusty heart of the new town, and paused to get his bearings, staring at the wagons full of forage, fuel, food, clothes, and furniture. He would have noted the high prices, with butter costing around 3 shillings a pound, cabbages half a crown each, and eggs half a crown to three shillings a dozen. These prices made it worth the while of Boer farmers to come to the town from as far as Potchefstroom, Heidelberg and Middelburg to sell their produce, but it made Johannesburg an expensive place for a family man. William was going to have to earn good money if he was to send for Martha and the girls soon.

He might have gone to one of the two-wheeled stands for a tickey cup of coffee, perhaps with a piece of hot vetkoek. But he would not have hung around the square too long – his first order of business would have been to arrange for his trunk to be cared for while he searched for a job. A place to stay would depend on where he found work.

The Main Reef ran just half a dozen blocks south of Market Square, so the nearest mines were very near indeed – a shaft of the Ferreira mine was a few of blocks from Market Square, while others such as the Robinson, Worcester, Wemmer, Salisbury, Jubilee, Village Main and City & Suburban were within walking distance.

It's not clear exactly what William did on the mines – in Britain miners were all-rounders, doing everything that was needed: drilling, blasting, lashing and tramping, as well as timbering. But in Johannesburg Africans did the heavy, less skilled work, leaving the white miners to do the blasting and to supervise the Africans. To begin with white miners handled the rock drills, but this was soon given over to African teams, with white miners supervising several teams. Eventually white miners came to be known as supervisors.

It's unlikely that William would have struggled to find a job. He had been working underground for about 25 years and was an experienced British hard-rock miner. While he might not have been Cornish, he had worked on Cornish mines, and his track record would have been recognised.

Accommodation was harder to find. With more people flooding into town every day, what rooms that were available were at a premium. It is almost certain he would have had to share a room, both for reasons of expense and availability.

A young married carriage builder, William Thomas Powell, wrote an account of his experiences of arriving in Johannesburg 10 or so years later, in late 1902. The day he and his friend Bill Russell arrived in town they found a room in a cottage behind the Freemason Hotel in Marshall Street. "It was a two-bed room, ten shillings a week each bed. There were two army cots, a wash stand with a water jug and basin, a table with an old cover, and no carpet on the floor. It was corrugated iron outside and thin match board ceiling inside, a pretty cheaply built cottage and, when it rained, you could hardly hear yourself speak."⁷

The room faced on to Anderson Street. There was no passage, so that anyone entering the cottage had to go through their room. "We had to pass through the back room to get to the yard, toilets and the shower room. The back room was occupied by the hotel Kaffir boys. I did not like this at first, but Bill said that was alright, as no one could get into our room from the back without being seen, and we had the front door key. And while they remained there, they were pretty good watch dogs. In the evening, when I had occasion to pass through, they would be sitting around a big pot eating their evening meal, or lying on the floor, rolled in their blanket. There was no furniture of any kind."

It being 1902, William and Bill had arrived in Johannesburg by train, and left their tools and boxes at the station. Once they had found somewhere to stay, they hired a dray from Market Square to collect them. They then used the last of their money to buy a meal from the Standard Restaurant, across the road from the Standard Theatre.

They opened for two hours, three times a day for breakfast, dinner and supper.

It was table d'hôte. You could eat till you burst and then pay one shilling and

sixpence as you went out. ... Well, I did not burst, but I do not think they made any profit on my first meal there. I loaded up to capacity as I knew I had only enough money for three loaves of bread and two or three pennies left.... It was on a Tuesday that we arrived, and that was the last meal I had till Saturday night when we were paid. I remember it was quite a walk to the baker's where I bought my three loaves of bread that had to last me till then.

He goes on: "The first week we quit work at one o'clock on Saturday, washed up and went to the Post Office, where I sent three pounds home out of the five that I received. I do not think that Bill had much money left either, as one night he had a bread supper with me."

Powell doesn't say much about dealing with the post office, but back in 1888, when Charles du Val was in Johannesburg, he was scathing about the service, calling it a "disgrace". Considering at that stage Johannesburg's population was made up exclusively of people from elsewhere and therefore dependent on the post office for news from home, he seems to have had a point.

It was a wood-and-iron building with three or four small windows facing the street. Two of the windows were used for distributing mail, with addressees from the first half the alphabet at the first window and the other half at the second. There was little attempt at queuing, and Du Val refers to "a serious jostle and perhaps a quarter of an hour's persistent struggling" to reach the window, behind which the postal clerk, "with nonchalance inimitable, goes leisuring through the bundles of letters pigeon-holed behind him..."⁸

After their visit to the post office, Powell and Bill went to "the coolie hardware store and bought a primus stove, a gallon of kerosene, some alcohol for lighting purposes, a frying pan, a kettle and a teapot. We set the stove up on a box in the alcove. Then we went to the Chinese grocer and bought a few cans of food and came back and had our first cooked meal, out of cans, in our own little home. We later added a big square Huntley and Palmer Biscuit tin for a safe to put our bread and butter in."

The two men ate their breakfasts and suppers in their room, but generally had their dinners – midday meals – at the Standard Restaurant. When they were feeling flush, they had their Sunday dinners there too.

Powell found a job at a carriage works behind the hotel. "I believe that we landed the only two jobs in the town and, for me, it was sink or swim. I realised I had to hold my job. I was not used to the African ways. The English style of work did not go there for various reasons. I had to learn fast, also work hard to make up for my lack of local experience."

Powell stayed in Johannesburg for just under a year before returning to his wife Lily in London in time for Christmas 1903. Later he settled in California, where he died in his 80s. His memoir of his time in Johannesburg was donated by him to the Johannesburg Public Library in 1964, when he was 84.

So what were the mines like when William arrived? Du Val, with his customary acerbity, writes in late 1888, just a year or two before William got there:

Anything more calculated to upset the romance of gold-seeking than a ride along the Main Reef at Johannesburg, it will be difficult to meet with. A few trenches, with heaps of soil thrown upon each side, looking like newly opened up graves, show where prospectors have been at work, and a couple of Kaffirs leisurely turning a windlass that winds up from an excavation like a well, buckets full of reddish-brown, mud-coloured conglomerate of earth and stones, are also evidence of work being done. The overseer, in flannel shirt and moleskin breeches, his waist encircled by a leathern belt, and his mouth embellished by a short pipe, sits on a mud-caked tub, and swears at the natives with a fair amount of regularity... Common-looking, two-wheeled conveyances, with a couple of bullocks yoked in, called 'Scotch carts', stand alongside until filled with the 'Banket', and are then despatched to the quartz crushing mill which, by a stretch of the neck, you can see at the foot of a slight dip of ground, perhaps half a mile away. The stampers and the engine that drives them are protected from wind and weather by a galvanised iron building, and the thud, thud of the crushing gear is quite musical from the rapidity and regularity of its blows.⁹

By 1890 the original tents and shacks had given way to wood-and-iron buildings, then to buildings of green or unbaked brick and eventually to kiln-dried bricks. Later posh houses in Doornfontein were built of stone. But the old wood-and-iron buildings persisted; I remember their being a common sight as late as the 1950s. Tony Leyds says many of the houses in Fordsburg were built in the "iron-bricklined" style. A skin of corrugated iron was lined with green brick, which made for good insulation. Early ceilings were cotton or canvas sheets nailed to the rafters, to help keep out the dust.¹⁰

Fordsburg was one of a number of working-class townships that had been laid out near the Main Reef; others included Jeppestown, Ophirton, Booysens, Turffontein, Troyeville and Yeoville. Another early township was Vrededorp, which came into being on open land to accommodate the mainly Boer transport riders who lost their jobs when the railways arrived in 1892. Only Transvaal citizens were eligible to live there. It became an area of poor whites,

a refuge for people from farms who had been ruined by several annual plagues of locusts and then the rinderpest in 1896.

When William arrived in Johannesburg the Sanitary Committee was still the local authority, but its powers were limited. Police and education fell under the jurisdiction of the central government in Pretoria, which also granted concessions for the provision of water, gas and electricity.¹¹

The Sanitary Committee was responsible for street cleaning and the removal of rubbish, waste water and nightsoil. This was tipped from buckets into tanks carried on mule wagons; there were 800 of these wagons in the town by 1904 when water-borne sewerage was begun. This happened relatively late, partly because the ground was so rocky, partly because water was scarce, and partly because no one in authority expected Johannesburg to last.¹² The night-soil buckets were replaced daily but bath and slop water had to be stored in tanks in back yards, and were emptied twice a week when the slop wagons came round.

The Sanitary Committee also regulated various matters including the storage of gunpowder, offensive trades such as tanning, and “houses of ill fame”. It was an offence for “natives” to walk on the pavements, being expected to walk in the streets; for anyone to ride a bicycle at more than six miles an hour or to drive a cart, carriage or wagon “in a furious manner”; or for horse-cab drivers to go at more than seven miles an hour.

Leyds says the speed restriction was necessary. “For instance on a Saturday the train from the East Rand would bring a large number of miners, all anxious to go to the races at Turffontein. Dozens of cabs would gather outside the Park railway station, fill up with passengers, and hurry off to the race-course and hurry back to the station for the next train, perhaps one from the West Rand. Such cabs would race four abreast up Rissik or Eloff Street with the cabbies shouting and whipping their horses, and the passengers already ‘well oiled’, singing and shouting too. Collisions and other accidents were frequent.”¹³

My favourite Sanitary Committee rule was the restriction on the loud cracking of whips. The whips, used for wagons drawn by six to eight horses, were about 25ft about long, made of plaited, tapering leather. “When such a whip was cracked it sounded like a gun going off. When half a dozen teamsters got jolly with drink and at 11pm suddenly decided to have a competition as to who could crack loudest, or most often in, say, two minutes, it sounded like a continuous burst of machine-gun fire.”¹⁴

Musing many years later on how the car must have changed Johannesburg, William Powell wrote:

I do not think you would now see the mule wagons loaded with dynamite boxes and with a red flag for danger, rattling along the streets to the shouts and haws of the Kaffir drivers on their way to the mines. The trek wagons, I presume, are also a thing of the past; coming in with a load of produce to exchange for the necessities of life, and with their long teams of oxen and mules, with the big hand brake at the back and water barrel at the side. I once saw a trek wagon drawn by nineteen donkeys (nine pairs and a leader) with a small Kaffir boy, called a 'Voorloper', walking beside the leading donkey. From where I was standing it was about half a mile from where they came into sight and turned the corner. It took them three quarters of an hour to make that distance. It was slow travelling even for those days.¹⁵

In June 1891, less than five years after the discovery of gold and before the arrival of the railway, the committee valued the land and buildings within the town's limits at £2.68 million.¹⁶

Part Three – Down the mines

The Witwatersrand mines were very different from those William Cogeen was familiar with. There were Africans to do the hard labour of course, leaving the white miners to supervise. Then there were the poor conditions, from air quality to privies, and another was the fact that while the reef was extensive and rich, the ore was poorer than that found in the United States and Australia. For production to be viable, huge amounts of ore needed to be extracted and processed – it took almost three tons of ore to produce a single ounce of gold. In 1894 almost three million tons of ore produced 1.5million ounces of gold worth around £7 million, or about 20 percent of the world's output that year.¹⁷

The poor conditions were widely known, being referred to in various journals as well as being described in evidence to a number of mining commissions set up by the Transvaal government.

Around that time there were around 1 600 skilled foreign miners on the Witwatersrand, and around 30 000 African mineworkers (compared with about 4 000 whites and 97 800 Africans seven years later, when the Anglo Boer War began). Most of the foreign miners – about 85 percent - were British, and most of those were Cornish.

In Britain a "skilled miner" was one who could do whatever practical job was required from the surface or the collar of the shaft to the bottom, according to the Journal of

the Chemical, Metallurgical and Mining Society of South Africa in 1906. But on the Witwatersrand a skilled miner's job was to supervise 20 to 25 "hammer boys" in drilling their holes, and then to do the blasting himself. After blasting, other Africans known as lashers or "shovel boys", removed the broken rock, also under white supervision.¹⁸

The Witwatersrand mines also employed specialised pitmen – "timbermen, plate layers, pump minders and pipe-fitters" – all of whom had two or three African assistants.

William would have found it all very different from Cornwall. A miner, M H Coombe, wrote in an article in the Journal: "There is no comparison between Cornish mining and ours. In fact, there is no comparison in the wide world with the Rand. We get through more ground here in a week than most miners in other countries do in a month. Here it is push and drive and worry from the time the shift goes down until it is up again, whilst in other mining centres there is mostly ample leisure to do things in a more deliberate manner."¹⁹

The poor quality of the ore lay behind the insistence on haste: the more that could be processed, the higher the profits for the shareholders. And there were not enough skilled miners; the supply never fully met the demand, says Elaine Katz in *The White Death*. As a result mine owners were prepared to take on people who had not come through the usual apprenticeships as practised in Britain. This compromised safety.

A glimpse into the conditions underground is provided by the evidence given to Mining Regulations Commission of 1910, the transcripts of which are kept in the Library of Parliament.

In 1907, Matthew Trewick, general secretary of the 4 000-strong, all-white Transvaal Miners Association, told members of the Mining Regulations Commission how training should be done.

When underground [apprentices] would see the work and learn the dangers. They would learn how things are done, how to watch the hanging wall [roof of the stope] and how to timber. They would see the blaster place the holes. After a year or nine months of this they would be in a position to take gangs of their own, either lashers, hammers or machines. They would learn from the others how to fix caps and how dynamite was handled... I know that as a rule nature kills off her fools.²⁰

But this painstaking process was not, in general, followed on the Rand, with the result that a white man who demonstrated any skills at all could become a highly paid miner.

Trewick again:

...the man who is now a mine captain at that place came out as a ship's carpenter and I have known him before. When he was on the Nigel Deep he was a timber man and he never did anything but timbering vertical shafts and such like ever since. I knew him while I was on the Robinson Deep, he went up and got his certificate and he knows as much about mining as a monkey does about nuts.²¹

The work of a supervisor was demanding. At the beginning of a shift he would inspect the roof or ceiling of the stope, for any "bad hanging", loose rock that could come down on a miner's head. He also had to look for any holes that had misfired during the previous day's blasting – drilling into a misfired hole which still contained dynamite was usually fatal. He would then assign duties to his African assistants, and because of the high turnover of these workers, inevitably some on-the-job training was needed. Invariably he was working with more than one team on different stopes, so that he might have to walk several hundred metres between work faces. And by the end of the 10-hour shift the requisite number of holes must have been drilled for blasting. The rock drills, which had been introduced in numbers on the Witwatersrand in 1892, were cumbersome, weighing around 60kg and needing two men to handle them. Katz says it could take a whole shift for one team of rockdrillers to drill four holes 2 metres deep.

Giving evidence before the Mining Regulations Commission in 1907, Thomas Mathews, organising secretary of the Transvaal Miners Union, spoke about the dangers of too many Africans for one miner to supervise:

When a man has two machines, he can centre all his attention on them, properly rigging up his bars [for the rock drills]. When you have to you can go down into the stope to the benches and give your boys exact directions what to do. Then if you take an interest in your work you can rig up the bar in the exact spot where it should be, even if you have to hammer out a bit of rock to put it up. You will get it up at the right angle, and while they are fixing this you can be doing the same with the other bar. When you have more than two machines you may have a bit of bad hanging here and there, but you have no time to stop and examine it, and often you find accidents happen right close to the face from the last round of blasting. If you have more than two you can only give general directions going from one to another. In the

interim the boy puts up the bar and brings down rock on his head. You just hear a shout: 'Baas, boy *mafele*,' and there you are... It means he has got a smash on the head and that he is dead.²²

Mathews also described what happened if a supervisor had not had the time to examine the recently blasted face, and so missed a misfired hole. "The boy turns on the air, strikes the bottom of the hole, and off she goes. If the man [supervisor] had time to come around he could pass his hand over the face, and if it was all right start the hole himself."

Mathews and Trewick both complained about poor lighting in the mines. Mathews knew of a case where a supervisor had had 80 Africans working under him with a single box of candles for a full shift. Despite the lack of candles, men could be fined for being underground without a light. The shortage of candles sometimes meant men were climbing back up the shaft without a light; Trewick knew of this at both the Lancaster Deep and the Ferreira Deep. "The boys use up the candles and they have to climb up in the dark, and accidents occur."

When a commission member asked whether it was not the custom for "the boys" to save their candles below and take them to their residential compound, Trewick replied this was true, but the practice could be stopped. "I might mention when I was working at Ferreira Deep two or three boys were found killed around an angle there. I was there about three years... We have seen them go up in the dark, and after a time, when we go on shift there is a boy killed."

There should also be lights at the shaft stations, but this was not done.

This commission, sitting in 1907, asked Trewick whether most mines were electrically lit. He replied: "I have been told so. I have only been in four mines; I don't change about much. It was all right on the Simmer & Jack, it was all right on the Bonanza, but in the Ferreira Deep they had no electricity underground, and not even a reasonably decent lamp – only just a flare, and the air is all black and vitiated."

Air quality was a source of much dissatisfaction. Not only was it full of silica dust, the prime cause of silicosis, known then as miner's phthisis, there was also not enough of it.

The regulations relating to safety and ventilation on Transvaal mines were based on British laws. The Kruger government and later the post-Anglo-Boer War government were not known for their insistence on mine safety or even adherence to their own mine safety regulations – as late as 1907 Trewick told the Mining Regulations Commission that there was just one sanitary inspector for all the mines along the entire Reef, and as he was employed by

the municipality he was concerned only with the mines in the municipal area. But one regulation the Kruger government did insist on was the two-shaft system, with one shaft to draw in fresh air and another through which stale air would be expelled.

The law provided that every miner should have a minimum of 70 cubic feet (2 cubic metres) of “fresh” air per minute. This ventilation was not mechanically driven – it relied on differences of pressure and temperature between the surface and the workings to suck clean cool air underground and expel warm stale air. But on the Witwatersrand mines for most of the year at the relatively shallow depths of the first and second-row deeps, the temperature differential between the workings and the surface was not sufficient to make the air circulate. Natural ventilation worked best in mid-summer and mid-winter, but in spring and autumn, when the surface and stope temperatures were virtually the same, there was almost no draught of air at all. Or as Katz puts it, “for the greater part of the year the air flow was so small that it could not cause a candle flame to flicker”.²³

James Moir, chemist to the Transvaal Mines Department, told the Mining Regulations Commission in 1907: “All the mines use natural ventilation. Further, the elementary principles of natural ventilation are in some cases ignored and the current spoiled by having steam pipes or hot air pipes in the downcast shaft.”

Because of the poor ventilation, “and of course the prodigal manner in which explosives appear to be used here, 70 cubic feet a minute is often unobtainable”.²⁴

Rock drills are driven by compressed air, and the mine owners relied on the exhaust air to ventilate development drives and blind ends. In these blind ends often the only “fresh” air came from the rockdrill exhaust, so that the miner had to keep the drill running while he did other jobs.²⁵ It wasn’t just the poor air quality - rock drills are essentially jack hammers; imagine the sound of one running for hours at a time in the confined space of a small tunnel.

Thomas Mathews told the Mining Regulations Commission: “I have often gone into a drive after the machines have been at work for a few hours. On entering a drive my head has ached. I have been very pleased to get out of it, for as a rule I find that the air 100ft behind the drill is stagnant and is injurious...”

The compressors were worked with a low flash-point oil, “the cheapest and rankest in the world”, and the fumes caused headaches. “This idea of having the air whirled from one side to the other in a mine is not ventilation.”

Mathews, who was American, said that in the US every mine manager had to pass an examination in ventilation. “I don’t know how it is here but I should judge that they know

nothing about it....I have no hesitation in saying that the ventilation on the Rand mines is the worst in the whole world.”²⁶

There were also the air problems caused by blasting. Great clouds of dust and fumes were produced, and as little as 30 minutes were allowed for this to disperse. Without efficient ventilation, blasting at lower levels allowed fumes and dust to rise to higher levels where men were working. Trewick told the commission:

There are a number of mines where the men right though a number of levels, after having blasted and gone to the station [for the cage at the shaft], have sometimes to sit for a quarter of an hour or for ten minutes in all that mass of smoke before they are allowed to go on top... I have sat with my hands over my mouth during the time I have had to wait before being taken up.²⁷

W Wilson, a hand stopper at the Ginsberg mine, told the Commission: “All officials went to the surface when blasting commenced. None of them ever waited in the smoke and dust-laden air.”²⁸

Mathews told the Commission: “I had 30 niggers shovelling and couldn’t see the niggers or the candles or anything because of the dust – and they had to work there all the time. I said to the shift boss: ‘Is it not disgraceful to have niggers in a place like that?’ The result of it was they thought I was talking too much, and what it practically amounted to was that they walked me out of the mine.”²⁹

In 1901, after the deaths of hundreds of foreign miners caused by silicosis, some mine managements introduced respirators. They were a dismal failure – they were uncomfortable and did not work.

Mathews told the commission: “I have used respirators two or three times and have always found on the inside of the respirator a fine deposit of dust...The inference is that, if on the inside of the respirator, on the sponge of a respirator, there is a deposit of fine silicious dust, then a lot of dust has gone down the throat of the person who is wearing it.”

The miners generally refused to wear the respirators, and were then accused by management and many doctors of being responsible for their own subsequent illness.

Gloom, stagnant air and poor safety standards were problems, but there was more: hygiene underground was shocking.

There were no underground lavatories in the outcrop mines at all, says Katz. Most miners and their African assistants could not be bothered – or could not afford the time – to

return to the surface every time they needed to relieve themselves. So they used disused workings and the ore boxes. The report of the Miners' Phthisis Commission of 1902/3 said:

We are concerned to find that the excreta of the underground workers is in certain mines systematically permitted to be mixed with the ore raised from the mine. This practice is most insanitary. It is obvious that if human evacuations are allowed to mingle with the water circulating through the mine (and this water is pumped to the surface and used on the sorting floors, mills, and other workings, and is constantly brought in contact with the employees), this pollution cannot but give rise to specific illnesses, and also tends to lower vitality and render individuals more prone to develop disease.³⁰

In 1903 it became law for underground lavatories to be provided, but Katz says many mine owners observed the letter but not the spirit of the new regulations. There were of course separate lavatories for whites and blacks, and those for the Africans were not properly maintained, resulting in the men's refusal to use them. The white miners' lavatories were slightly better, but there weren't enough of them, with the result that almost everyone preferred to use "dark corners" which resulted in faeces being mixed with rock and water in the main workings.

In a complaint to the Mining Regulations Commission on this topic, Trewick testified: "We want the water to be laid on from the surface but when you speak about it 'Oh it will cost money'... And instead of water that is fit to be used, instead of pipes being laid on, you have to go out to a hole and take up water with the excreta of kaffirs in it, and employ that into the bucket and have it fused into the air in the atomiser."

Asked whether black miners would use privies if they were provided, Mathews told the commission they had on the Robinson Deep, but not on the Nigel Deep. "They would go into any dead end, and some of them would not even take the trouble to stop, but would do it going along. They have nothing on, they are very quick with it and do it right where they are walking."³¹

While showing the occasional flash of concern for the African workers, Mathews and Trewick displayed the casual racism of the time. Talking of change houses – where the miners changed their clothes before and after their shifts – Mathews said these had recently improved on several mines. He was then asked by the commissioners about change houses for black workers, and replied that in many cases they didn't need them.

“I consider that if men don’t wear any clothes they have none to change. They are different to a white man because they go to work with just their nakedness covered and that is all.” What about in wet mines, he was asked. “Well, if it is wet, the nigger has no clothes to make wet. He has only a bit of rag, and when he goes to the compound I suppose he hangs it up to dry.”

But then, showing he was not entirely lacking in human feeling towards his black co-workers, he told the commission: “I have often thought that a great deal of pneumonia is caused here in the winter time by having the raw natives lined up in the cold waiting to go down. If they put in a sort of close stove right up near the shaft it would do a lot of good.”³²

He and Trewick were indignant about the number of black workers forced into the cages preparatory to going underground.

Mathews said that sometimes a banksman [the man in charge of filling the cage on the surface] “gets his foot against kaffirs and presses them in with his foot”. Trewick was more explicit: “I have seen them [blacks] get not a gentle kick to make them stand up in the cage, so that the iron bars on the sides of the cage could be pressed down.”³³

Part Four – Racism on the Rand

As a Cornishman, Matthew Trewick would not have grown up with black people, but he and most other foreigners – almost certainly including the Cogeens – seem readily to have absorbed the general racism of white Transvalers of the time.

Everyone spoke unselfconsciously of “kaffirs”, and the word did not have the same loading it has today. In checking my notes on the Mining Regulations Commission report I see that while the words “kaffir” and “nigger” were used, by far the most common term for black mineworkers was “boys”. The word seems to sum up the general patronising attitude towards Africans – useful but childlike, needing guidance, and mainly unskilled, although it was conceded that under the right circumstances they could learn.

Discussing the fact that some white supervisors would sleep on the job underground, one miner told the Final Report of the Mining Regulations Commission: “When the boys become accustomed to the method of their bosses they are often capable of drilling the whole round without his presence being necessary at all. The men often boast of never having been near the boys on a shift.”³⁴

The commission heard evidence from some black miners, but while the whites are referred to by their proper names as, for example, J J Ware, J H Creswell or SW Taylor, the

blacks are called English from Village Main Deep, East London from Crown Deep, Tom from Village Main Reef, Bossboy from Crown Deep and Office from the Wolhuter.

A little linen-bound volume called *Miners' Companion in English, Afrikaans, Sesuto and Mine Kaffir*, published by The Prevention of Accidents Committee of The Rand Mutual Assurance Co Ltd, gives an insight into white miners' attitudes to black miners. The edition I've seen was published in 1938, but the preface says it was first published in 1920, and I suspect that attitudes had not changed much since William Cogein worked on the Rand.

According to its foreword, it was intended to help white employees "in the early days of their mine employment in overcoming the difficulty of making themselves understood by native labourers. The ability of European and native employees to understand each other has a distinct bearing on the prevention of accidents and assaults."³⁵

It included a pronunciation guide, and said that the "Mine Kaffir" used in the book was understood by "the majority of natives on the Witwatersrand Gold Mines. Each word in the vocabulary and each phrase in 'Mine Kaffir' has been carefully considered by a Sub-Committee, which included a number of Boss Boys."

The little book includes several pages of phrases, and the emphasis here is on the imperative – you don't find any niceties in the way of "Hello and how are you?" It's mostly a list of orders: "Look out for misfires"; "Piccanin, bring the hose and pump out all the holes"; "You must drill where you are told to"; "How many holes have you drilled?"; "Fetch the rock drill", and – my favourite : "Haikona dlala ngalo jalatin" – don't play with dynamite.

Clearly the complaints heard by the Mining Regulations Commission 30 years previously were still a problem: "If you are caught urinating in the stope again you will be arrested. You are to use the latrine" and "You must use the native side, not the European side".

Then there are the remarks by an employer feeling the weight of the white man's burden: "How many times have I told you not to drill into the footwall and the hanging?"; "You are loafing"; "You are not sick but lazy"; "If you steal candles you will get into trouble" (candles in 1938!); "You must not bring kaffir beer down the mine".

Skilled white miners earned around six times the amount earned by "unskilled" Africans, and this gap widened in 1897 when the wages of Africans were cut by a third to save production costs.

Many Africans were not unskilled at all; although most were migrant workers, around 60 percent in 1898 came from Delagoa Bay in Portuguese East Africa (later Mozambique), and because of the distance they travelled, signed up for longer contracts, sometimes up to

five years. This meant these workers, known as Shangaans, were perforce more experienced and relatively skilled. However, they were still not allowed to do any blasting – in 1893 the Kruger government passed the first industrial colour legislation reserving the acquisition of a blasting certificate for whites only.

It was not only down the mines that racism was encountered, and while many white newcomers accepted it, others felt uncomfortable. In his account of his time in Johannesburg in 1902 William Powell talks about Africans, although those he came into contact with were generally not mine workers.

“Kaffir boys were all in by nine o’clock, as that was the curfew hour. It was a common sight to see them running down the street a few minutes before nine. They never walked on the sidewalk...”³⁶

By the time Powell was in Johannesburg not only was it illegal for blacks to buy liquor, it was also forbidden for whites to provide them with any.

The penalty was three months’ hard labour for giving them liquor and nine months for selling it to them. One of our boys, by the name of Cement, offered me a half sovereign to buy him a bottle of whiskey. That was three times the cost, but I refused his pleadings. The risk was too great. That was enough to make him intoxicated, and if he was caught it would not be long before they found out where it came from. We used to buy a bottle for high days and birthdays that was kept in our [food] safe, and we did give the boy who cleaned our room a swig once in a while.³⁷

Powell, a wheelwright, notes that nearly every mechanic had a black helper: “They were called ‘boys’, regardless of their age.” It didn’t take Powell long to adopt the same attitude as those he found around him. One day he wanted something in a hurry from the stock room and fetched it himself, only to be told by his boss that that was his assistant’s work. “I soon found that, if you started to do something, the Kaffir would let you do it all. It did not pay to be easy with them. You had to be firm, and no monkey business.”³⁸

When the British took control of the Transvaal after the Boer War, some laws relating to the treatment of Africans changed, although this did not necessarily mean that things improved for them. Powell describes how an African, clearly new to Johannesburg, asked for a job at the wheelwright’s, claiming he had worked on the mines. But during a try-out he demonstrated he did not know how to use a sledge hammer.

... Timoney was watching. As soon as he saw the boy fumble with the sledge, he walked over to a pile of heavy wagon spokes, picked one up, and hit the boy across

his shoulder blades as hard as he could. It was a nasty blow and the boy leaped straight up in the air. As he landed on his feet, Tim hit him another heavy blow and began to shout at him in Kaffir language... Under Boer rule, nothing would have been said of that but, if he had been seen by the police, Tim would have had three months' hard labour.

Another time Timoney punched a "Cape Colony boy" hard under the chin, knocking him flat on his back. "Tim was lucky," wrote Powell. "The British were hard on that kind of treatment of the natives."³⁹

He describes how when Africans came to Johannesburg they had to go to "the native office and change their paper saying who and what they were for a permit to work in the town. The boy had to carry that on him at all times, and it was customary to give him a slip of paper, telling who he worked for every time he was sent on an errand. This was in case he was questioned by the police, as they were in my time, if found walking on the streets."⁴⁰

From the beginning, Johannesburg's black workers were housed separately from whites. At the mines all along the reef the compound system of housing was introduced, similar to that used in Kimberley where, in the words of Brian Kennedy in his *Tale of Two Mining Cities*, it had proved its success as an agency of social control, even though the Rand compounds were not closed, as they were in Kimberley.

In the mid-1890s young black men made up almost half the population of Johannesburg, most of them working in the mines, but many living and working in town as domestic workers and in various jobs of the type described by Powell. The 1896 census held by the Sanitary Committee showed up the enormous imbalance in the number of black men and women; there were about 40 855 men and 1 678 women, or almost 25 men to each woman. (This compares with 25 282 white men to 14 172 white women, or just under two to one.)⁴¹

The black men who did not live in the compounds or in back rooms in the city tended to congregate in what we would today call an informal settlement of reed and mud huts at the Brickfields, a marshy area just north-west of the Market Square which provided clay for making bricks. The clay diggings meant there were holes all around which filled up with water in the summer, becoming "dangerous and unhealthy quagmires during the fever season", says Kennedy. A child drowned in one of the holes in 1895.

Indians, coloureds and some Afrikaner "poor whites", an overspill from nearby Vrededorp and Burghersdorp, also settled in the area, some of them working as brickmakers. Lanes were crooked and unpaved, and The Star of August 5, 1897, described the area as "the

centre to which the starving and destitute, the weak and unfortunate, gravitate with unfailing certainty”.⁴²

As early as 1888 the Sanitary Superintendent, concerned about the risk of fire, disease, and black drunkenness posed by the residents of the Brickfields “owing to their filthy habits and mode of living”, recommended that the inhabitants be forcibly moved into “locations” where they could be properly controlled. It took another 12 years before these locations were laid out at Braamfontein for “poor whites, Natives and Asiatic Races”. The Indians, citing their British citizenship, refused to budge, and the Brickfields area became known as the Coolie Location. But in 1904, after an outbreak of bubonic plague in which 50 people died within days, the remaining population was moved about 12 miles south of the city to a farm called Klipspruit. The Coolie Location was then sealed off, burned down and redeveloped as Newtown.⁴³

CHAPTER SIX – GOLD III

Interlude: Cape Town – December 1892

Martha Cogeen rose at dawn on the day the Dunnottar Castle was due to dock in Table Bay. Leaving the girls asleep in the cabin she went up on deck to see that the sea was no longer the inky blue of the deep ocean, but was now a dull green. Gulls flew overhead, and three seabirds swam below in the water. She didn't know what they were, but they were fluid as fish.

Dead ahead was a flat-topped grey shadow in the pearly sky, which other passengers pointed to excitedly and said was the Table Mountain. A brisk breeze blew the smell of land to her, spicy, salty and rich. As the ship sailed on she saw a long curving coastline to her left, miles of silvery beach fronting a line of low grey hills.

The sun lifted itself from behind a range of jagged mountains to the east, the light turning the Table Mountain a rusty pink. This wasn't the dun Africa of her imagination.

The ship edged around a low island surmounted by a lighthouse, and headed for the harbour entrance. She went down below to wake the girls. They should see this.

Ten minutes later they were all back up on deck again, six-year-old Ethel grumpy at being woken so suddenly.

"Look!" said Martha. "See how flat that mountain is – they call it the Table Mountain. And see, here's our tug, come to guide us into the harbour."

Amid shouting and bustle they tied up at the quayside. Now the mountain was looming over them, astonishingly big and grey-green against a bright blue sky, with a huddle of low white buildings at its foot.

On the quayside below were a host of dark-skinned men, some wearing turbans, many barefoot, busying themselves with the unloading of the ship. Nets full of trunks and cases swung beneath cranes as they were lowered to the dock. Cabs waited for passengers, their horses stamping and blowing. It was all a dazzle of light and breeze and bustle, and as Martha and her daughters made their way down the gangway to the solidity of Africa – the first land they had touched since Madeira – they smiled with delight.

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Within a few hours they were on the train north, their trunk stowed in the guard's van, facing the last two days of this long journey from Cornwall. There were glimpses of the sea, then the train went over a high mountain and they could see whitewashed houses, high mountains and vineyards. The children were beside themselves with excitement.

Martha too was excited; she hadn't seen William for more than a year, and they were heading to their new home and a new future.

But something was nagging at her. She hoped she had made the correct decision and that it would be all right.

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The clacking of the train wheels changed as they rolled over the bridge across a wide river. "That's the Vaal River," Martha told her girls. "Now we're in the Transvaal. Not long to go to Johannesburg. You'd better wash your hands and faces and look sharp."

They stared curiously out of the window as Johannesburg's buildings began to line the railway track. They were low, one-storied houses, and to the left you could see golden mine dumps and the scaffolding of mining headgear.

The buildings became taller and more impressive, and then the train slowed as it rolled into Park Station.

"I can see Da, I can see Da!" squealed Katie at the window as they rumbled along the platform.

Martha stood up. Here came the moment of truth. She smoothed her hair, and made sure her hat was securely pinned.

The train stopped, and in less than a minute William, sunburnt and with a smile splitting his face, was at their compartment door. Katie, old enough to remember him better, flung herself at him and he caught her in a bearhug. Ethel, shy, hung back, until he grabbed her with his other arm and pulled her to him.

Martha stepped down out of the train, dragging their bags after her. "Wait a minute, woman," said William. "Let me look at you." He put the girls down, smiled, and held her close.

"Here you are, my dove," he murmured.

She hugged him back, and then waited, as the girls swirled around their father. William looked around, and then into the compartment.

“Where’s the Boy?”

Martha swallowed. “I never brought him. I wasn’t sure what you wanted. You didn’t say.”

William looked at her, aghast. “You didn’t bring him? What, you left him behind?”

Then his face cleared. “It’s a joke. He’s hiding.”

And he walked up the length of the train, opening doors, looking for the Boy.

Martha, Katie and Ethel stood still, watching him. It wasn’t a joke.

University of Cape Town

Part One – Where's the Boy?

Martha, Katie and Ethel came to Johannesburg by train, so we know they arrived in 1892 or soon after. If Martha had been concerned about leaving established Cornwall for an African wilderness, she need not have been. In December 1893 the French humorous lecturer Max O'Rell¹ wrote of the town:

Johannesburg, which is seven years old and no more, is today a town of 60 000 inhabitants, well built, possessing first-class hotels, shops as important as those of large European towns, elegant suburbs, dotted over with charming villas; and although there is not a tree to be found growing wild within 50 miles, Johannesburg has a very promising park [Joubert Park], as well as beautiful private gardens. And please do remember that the railway was brought to Johannesburg only a year ago, so that each stone, each plank, each nail, that served to raise the city in the desert, must have been brought there in heavy carts drawn by oxen, at the rate of about a mile and a half per hour. Johannesburg is not only the most important town of the Transvaal, it is the most important town of South Africa.²

Imagine the joy in the little house in Whitecross in Cornwall, where Martha was living with her girls, when the postman brought the letter from William containing the money order for their fares to Johannesburg. It meant a lot of work – notice to be given on the house, the household goods packed up, the girls taken out of the Board School, and things to be bought because you couldn't be absolutely sure that Johannesburg possessed all the necessities, especially for children. And it meant almost certainly permanent farewells to Martha's mother, Honor, and Martha's brothers and sisters and nieces and nephews who were still in Cornwall.

But this would not have fazed Martha too much. She was a restless woman who enjoyed change, and this journey promised to be an adventure. There was the pleasure of being reunited with William to look forward to, and also the relief of no longer being what we would today call a single parent. And she was caring for more than the girls – by this time the family had acquired a boy, known ever after as the Boy, a little older than Katie and Ethel.

Maddeningly, we know nothing about him. At the time Katie and Ethel were about eight and six years old; seventy years later Ethel would tell me about him, but could not

remember his name. I thought I might find him in the 1891 census living with the family, but he's not there, and without a name he's untraceable. All we know is that apparently he had been living with the family well before William left and, perhaps partly because he was another male in a household of women, William was fond of him.

He was, my mother suspects, someone's "come-by-chance", a kinder, more affectionate term than "bastard". I've speculated endlessly about who he might have been. Could they have brought him back from America? It seems unlikely. Was he the son of some ruined Cornish girl? Could he even have been William's son, born of a prior relationship? Surely not, because in that case he would not have presented the dilemma he did.

The dilemma was this: in his letter sending for the family William had not mentioned the Boy specifically, and Martha did not know whether he was to be included in the family journey. Letters in those days could take two months, and she was not prepared to wait that long. She could have telegraphed William, but I suspect this would not have crossed her mind.

So she left the Boy behind. Possibly she felt it would be better to leave him in England, where he presumably had some contacts, some relatives and at least the chance of the workhouse if all else failed, rather than take an unwanted hanger-on to Johannesburg, where there was no fall-back and they would be stuck with him.

I suspect Martha was not specially fond of him and thought this was a good opportunity to cut him loose. Who knows? He is an intriguing footnote to our family history, a snapshot, a glimpse of another possibility.

But Ethel remembered all her life the family's arrival at Park Station, and her father, delighted to see them all, looking around in vain for the Boy, and then running up the platform, looking for him in each compartment, ready to laugh at the joke.

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So the longed-for family reunion got off on the wrong foot. But they had to get on with things, and they did. William doesn't seem to have felt strongly enough to send for the Boy, or perhaps he was too young to travel alone. So the Boy slipped out of the family narrative.

The early years were spent at Ophirton and later Denver. Ophirton was more or less on top of the Main Reef, and Leyds says soon after it was declared a township it was surrounded by mine dumps, so that for six months of the year "the dust in that part was unrelieved". Martha was not one to put up with unnecessary discomfort, and so the family

moved to Denver, south of the Main Reef, and after their Leadville history enjoyed the coincidence of the Colorado name.

Later they settled in Jeppestown. This was altogether a better address. Along with Fordsburg, Jeppestown had been laid out by the Ford and Jeppe Estate. While both areas were working class, Fordsburg, to the west, allowed residents to run businesses from their properties, while Jeppestown, away from the main street of Jules Street, was strictly residential and therefore perceived as a classier sort of place. By 1894 it had 421 buildings including two churches and St Mary's Collegiate, Johannesburg's oldest girls' school (now moved to Waverley). According to the *Standard & Diggers' News* of January 29 1897, "as a residential suburb for the man of limited purse, Jeppe's stands unrivalled; its dwellings are compact and comfortable, its roads are things of beauty, it is graced with a railway station, it has been endowed with a post office..."³

As early as 1890 Uitlanders had drawn up a petition for more hours a week to be devoted to teaching English in schools – the provision of education in English was one of the grievances that led to the Uitlander dissatisfaction so adroitly exploited by the likes of Alfred Milner in the run-up to the Anglo-Boer War. And it wasn't just the English parents who were unhappy with the Transvaal government's language policies. Leyds describes the Spes Bona School established by the Pretoria government beside the railway line in Braamfontein in 1891, where the medium of instruction was High Dutch or Nederlands. "This meant that the Afrikaans children had difficulty in assimilating the lessons, the Nederlands children made little headway, being held back by the Afrikaans children, whilst English was taught for only four hours a week. The result was generally unsatisfactory."⁴

But by 1895, shortly before the Jameson Raid, there were 55 Uitlander or private schools in Johannesburg, in most of which English would have been spoken and taught.⁵ One of the first was the Catholic Marist Brothers School, founded in 1889, but that was for boys only. St Michael's College, forerunner of the Jeppes Schools, was also for boys only – Jeppes Schools became co-educational only after the Anglo-Boer War, by which time Katie and Ethel would have been too old for school.

In any event, a school was found for the girls, perhaps St Mary's, and in the absence of any family stories of resentment at having to be taught in Dutch, one assumes they found an English school where they learnt their letters and sums – Ethel became an enthusiastic and life-long reader. Many years later, as a wife and mother, she would be late putting on the dinner because she was buried in a book. She told me: "You just had to make sure that by the time the men came in you had the onions on, and then they'd think supper was on the way."

Despite elementary schooling having been made compulsory in England only in 1870, Martha, born in 1850, went to school and was certainly still there in 1861 when she was going on 11. But she never loved school, and her girls were always kept home on their birthdays.

Martha and the girls would have brought most of their needs with them – bedding, linen and crockery, pots and pans, clothes and shoes. In the early 1890s there were no factories producing furniture, clothing, pottery, metalware, cigarettes, shoes, medicines, machinery, or any of the other manufactured necessities of life. Everything had to be imported, and at a premium. Leyds described this in terms of the price of a winter coat which would have been doubled by the cost of shipping it to South Africa, then whacked with the Cape's import duty, and then tripled by the cost of the rail journey inland, not to mention the Transvaal's import duty.

But that wasn't the end of it. The price of Leyds's coat went up again to pay the retailer a profit, "he, poor man, being himself subject to the price spiral, had to make a greater profit per coat than his overseas brother, because he himself had to pay so much more for groceries, books or other things not dealt with in his shop".

Part Two – Crown Mine

"Hullo, is that Gold Reef City?"

"Ye-e-es."

"Oh good. Can you tell me how deep you go when you go down the mine?"

"Two hundred?"

"Two hundred what?"

"I think it is two hundred and twenty kilometres."

"Two hundred and twenty kilometres?" My voice rises to a squeak.

"Ye-e-es."

She puts me through to the press office and the press spokeswoman, who is laughing so hard she sounds as if she's about to fall off her chair, says no it's not 220 km, just 220 metres.

In my research into William Cogeon's life I've visited a few mines. There was the blind tunnel at the Great Laxey Mine on the Isle of Man, and Wheal Mexico at Geevor in Cornwall. Both were adits, essentially horizontal entrances to mines. Because adits often open on the side of hills they can be a long way below the summit, but you don't actually descend much.

Compared with today's mines, the Witwatersrand's first deep level – as opposed to outcrop – mines, sunk in the mid-1890s, were relatively shallow, going down perhaps 500m. I have no idea of what even this would feel like. I need to go down a real working mine.

It turns out you don't just book a trip down a mine. Mines are big, dangerous production sites, and the last thing the managers need are uninformed people stumbling around, tripping over rails and getting in the way of the working shifts. I ring the Chamber of Mines to find out if they offer tours, and discover they do not. Have I thought of visiting Gold Reef City?

Gold Reef City is a theme park in southern Johannesburg, and its theme, as its name suggests, is mining. It is in fact built on an old mine site, and while like most theme parks it has rides – with names like Miners' Revenge – it also has a headgear, a smelting house where "gold" is poured, and replicas of the sort of Victorian houses you would have found in early Johannesburg. But the best thing about Gold Reef City, to my mind anyway, is that you can go down a real old mineshaft.

I ring them to find out how deep, and the switchboard operator turns out not to be the brightest candle on the hard hat. But 220m seems a respectable depth – it will certainly give us an idea of the feel of a mine.

Thomas and I head up to Joburg in his university vac and drive south to the old mining area. It seems Johannesburg's early town planners were often not much more creative when it came to naming places and streets than they had been in Colorado. We find an area called Amalgam, with streets named Chromium, Spelter, Production and Crusher. There seem to be fewer mine dumps than I remember as a child, and I discover later they are being removed, some for re-processing to extract traces of gold, and also to create space for new development. The famous Top Star Drive-In closed in 2006, and today little is left of the dump it perched on.

Gold Reef City turns out to be on the site of the old Crown Mine. Our guide, Mark Modise, tells us that in its heyday Crown Mines was the biggest, deepest and richest gold mine in the world. In 70 years of life it produced 1.4 million kg of gold, and employed 30 000 workers. It had 67 shafts, 15 leading down from the surface and 52 subshafts – shafts sunk from levels underground. Shaft 14 is the one kept open for visitors; it stopped working in 1970. We will go down as far as level five, but the shaft drops another 52 levels below that. Our cage will hang over what seems like an unimaginable void. A signboard on the walkway to the head of the shaft has a graphic representation of the mine, showing the headgear, and the vertical shaft featuring a little drawing of water and a sun brolly about three quarters of

the way down – sea level! Knowing that Johannesburg's altitude is 1 750m puts that into context.

We pass the massive old steam winding gear mounted beside the walkway, which used to lower men and equipment until 1929 when electricity was introduced. At that stage the mine was around 975m deep.

Apart from us the group seems to consist mainly of Japanese men in suits. We're issued with hardhats and a few miners' lamps are distributed among us. Modise shows us a peg board on which each descending miner would leave an identity disc, so that a disc still on the board at the end of the shift instantly alerted all to a missing miner. We get into the cage – the steel-meshed lift – and plummet 220m. Our ears pop. We emerge into a high-roofed, well lit tunnel, its walls painted a dirty white designed to reflect light, particularly important when illumination was provided by candles. We follow Modise along the drive or haulage, the horizontal tunnel, past a stout wooden door which has a sign over it reading Diggers Inn. This is said to be the deepest pub in the world, and you can hire it for parties and events. We pass a small dam with bricked walls – water was pumped out of the deep levels by 70-year-old Cameron pumps which could extract 3 000 litres an hour. The water was stored in this and other dams and reused to cool the mine.

We're shown a tally board that would be marked with pegs so that each group of miners knew how many cocopans they'd filled – their earnings depended on this. We pass an old dynamite box with the name of the inventor, Alfred Nobel, painted on the lid. Next to the Nobel box is a more modern explosives cabinet with a slanted top to stop miners absent-mindedly placing their candles on the lid. Inside are rolls of dynamite and other explosives clad in a red skin, reportedly known to the miners as polony rolls.

Off to the side of the haulage are the stopes, narrow sloping spaces that follow the line of the reef. Modise points the reef out to us, and once we know what we're looking for the line of conglomerate is clear – a seam in the rock studded with small round pebbles, and not a fleck of gold in sight. Perched in the stope, holding a compressed air drill, is what I first take to be a mannequin in yellow oilskins. But Modise tells us to brace ourselves and gives a signal to the mannequin who comes to life and starts the drill. The sound is shattering, reverberating down the haulage. It's just a blast, and then all is quiet again. The oppressive sense of tons of rock above you, and the dimness of the light are one thing – to have that sound going on, hour after hour, on top of it all, beggars belief. How did the miners bear it? How do they still today?

Back up on the surface we're taken to the smelter, where we sit in a tiered theatre while men wearing protective clothing and welding helmets open the double doors of the furnace, letting out a blast of roasted air. Inside the orange heart of the fire is a glowing vessel that they lift out with great care, using giant tongs, and tip molten gold into a mould. Steam rises up as it sets. Then the man with the mould turns the gold brick out on to a velvet drape. It has a soft buttery gleam. It's only afterwards that I notice a big sign on the wall: "Please note: this demonstration is NOT performed with real gold." We get our pictures taken with it anyway. Another sign gives values: the price of gold today is \$1 569.20 a fine ounce. The value of a 20kg gold bar made up of 80 to 90 percent pure gold – as refined as the gold gets before it is taken to the Rand Refinery in Germiston – is R4.6million. No wonder that in crime-ridden South Africa they don't use real gold.

Gold Reef City is interesting, but now I know I have to go down the real thing.

I ring a colleague at The Star newspaper who worked on gold mines himself as a young man. He gives me the names of mining company contacts, the first a guy from De Beers. At this point I demonstrate I'm not the brightest candle on the hard hat either.

I state my piece, and he replies mildly: "Ah. You do know, don't you, that at De Beers we mine diamonds?"

But he gives me the names of the guys to contact at the big gold mining companies, AngloGold Ashanti and Gold Fields, and wishes me luck. So I send off emails to the marketing, and hold thumbs.

Around this time I realise that despite all my acquired fascination with gold mining, I don't really understand the process. I know they drill and blast and haul out ore, but how does it work, exactly? My colleague at The Star tells me: "If you don't manage to go down a working mine, get hold of Wilbur Smith's novel *Gold Mine*. It's skop, skiet and donder but it's very good on how the mines work, what it's like underground, the smell and the feel."

I order the book, and it's enlightening. Smith assumes no prior knowledge, and while weaving his story about the mine manager in love with the owner's wife, the thieving Boss Boy and the heroism they both display in a fatal rockfall, explains all the terms I've found confusing. I discover that shafts are sunk to below the reef, and that haulages or drives are the horizontal or level tunnels, all made in waste rock, or rock that is not gold-bearing. To reach the reef, the miners cut sloping tunnels called raises up into the reef, and will work the sides or sidewalls of the raise along the line of the reef. This working area is called the stope. The top of the stope, propped up with timber, is known as the hanging wall or the hanging; the bottom or floor is the footwall.

I'd always assumed the guy with the compressed air rockdrill was drilling out ore, but in fact he's drilling blast holes where the explosive and fuses will be set. Blasting is done from the surface by remote control at the end of the shift when all the miners have left the stopes. When the next shift goes down at least three hours later and sometimes overnight, they lash and tram. These processes involve scraping the blasted ore into what are known as box holes, which have a chute and a door to control the flow of rock. From here the rock pours into the underground train wagons known as hoppers, and is hauled to the shaft area. From there it goes down further openings called ore passes to the lowest level of the mine, and is transferred into skips and hauled to the surface.

The ore is then crushed and milled until it has the consistency of a fine powder, and the gold is extracted, using various chemical processes. A 20kg gold bar processed on site will have 90 percent purity. At the Rand Refinery it is refined to a purity of 98 percent.

During our tour of Shaft 14 I ask Mark Modise whether he was ever a miner himself. He was, he says, and his father still is. "But he's at Rustenburg, he's a platinum miner."

This brings me up with a jolt. In all my focus on William Cogeen and the gold mines of the 1890s, it's easy to forget that so many of the issues raised over a century ago are still with us – danger, brutality, poor ventilation, silicosis, poor pay. Marikana, where more than 30 striking platinum miners were shot dead by police in August 2012, is a sharp reminder.

Part Three – Family life in Johannesburg in the 1890s

Because both my mother and I were born in Cornwall, it took me a long time to realise that Ethel, my granny, was essentially South African; they arrived in Johannesburg around 1893, when she was about seven, and left only in 1915, when she was a year shy of being 30, so that most of her youth was spent in the Transvaal. While Thora had grown up in the Cornish countryside, Ethel grew up Jeppestown in a grid of streets about a mile down Jules Street from my first memories in Malvern. I always knew and liked the fact she'd been born in America, because that was exotic, but she could remember little of that. And I wasn't interested in asking her about what she could remember, which was boring old Johannesburg.

In the early years of Johannesburg most of the miners were either single or had left their families at home in England and elsewhere. While wages were high compared with what they would have earned in England, so was the cost of living. As late as 1897, around 54 percent of white miners were single men, and of the 46 percent who were married, only 13 percent like William had their families with them.⁶ Many mines provided housing for married

men at relatively low rentals close to the mines, but there was never enough. This meant most miners had to rent homes in Johannesburg at rentals of up to half their annual income, and commute.

Martha was houseproud, sharp-minded and possibly bored; according to the family stories she liked moving the furniture around, and she liked moving house, which made William complain that he never knew which house he was going home to. In their final home in Doran Street, Jeppestown, they had a small back yard. My cousin Karen Myburgh – Katie’s great-granddaughter – tells how once Martha was surprised in the garden by a snake. Never one to have the vapours, Martha seized it by the tail, twirled it around her head and “smashed it against the wall until it was dead”.

Katie and Ethel attended the Wesleyan Methodist Church in Jeppestown, where eventually Ethel became a proud Sunday School teacher. There were picnics, and Ethel talked about going all the way to Orange Grove by ox-wagon. According to Oscar I Norwich in *A Johannesburg Album*, the area was originally known as Lemoen Plaas, having been planted with citrus seedlings by the Voortrekkers. It was set among hills on the old Pretoria road, and sheltered from the town’s pervading dust storms. A waterfall splashed into a pool where people swam, and there was a hotel and the Orange Grove Tea Gardens, where Sunday concerts were held, and people sat at tables dotted around the lawns, shaded by little thatched umbrellas. You could travel to Orange Grove from the centre of town for a shilling. Ethel never mentioned the balloon ascents, which Norwich says were begun at Orange Grove in 1893 by a Professor Price – “with varying degrees of success”.⁷

Water was an abiding problem in the early years. By the summer of 1894-1895, when there was a drought, around 102 000 people lived in Johannesburg. Mule-drawn water carts carried water to the higher parts of town, where it was sold in buckets at two shillings and sixpence a bucket. In his book *Fifty Golden Years of the Rand*, D Jacobsson, mining editor of *The Star*, describes how families gathered around the watercarts in October 1895, “...father with a bucket, mother with a bedroom jug, children with kitchen utensils and even mantelpiece ornaments, and the native servant ‘Jim’ with the old paraffin tin. The rich washed themselves in sodawater... but even supplies of soda water began to fail.”⁸

There were dire rumours that the brewery would have to stop production, but fortunately it had its own spring that had not failed.⁹ In a vain bid to produce rain the Waterworks Company tried firing rockets into the clouds over the Wanderers’ Ground, which according to Jacobsson nearly led to the arrest of company chairman S B Joel. A grumpy police constable reportedly said: “Hij steek zijn vinger in de oog van God” (He’s sticking his

finger in the eye of God”), a view that was supported by the belief that the drought was God’s punishment for the evil of the Rand.

The Cogeens kept up their links with Home, as the expatriates called England, William joining the Transvaal Manx Association, which functioned as a social club as well as a support group. There would have been other Cornish wives for Martha to make friends with, and the girls went to school and lived their lives. But in the background there were growing rumbles of discontent, leading eventually to the Jameson Raid which took place over the New Year of 1895-1896 and which changed everything for the Transvaal. But that didn’t impress nine-year-old Ethel, who for the rest of her life found the subject unutterably boring – particularly when her husband Jimmy brought it up, as he did with some regularity. “There’s Father, on about the Jameson Raid again,” she would tell her daughters, rolling her eyes.

Katie and Ethel were too young to understand the significance of the raid, although they would have been aware that their parents were talking about it. There is a reference to the raid by another Johannesburg child who was seven at the time. Thomas Adlam was the son of Richard Adlam, a botanist who was appointed the first curator of Joubert Park in 1893, and the family lived in a house in the park for 10 years.

Adlam says his parents often talked anxiously to visitors about the Uitlanders’ grievances and their discontent with Paul Kruger “and other such like matters unappreciated by Duncan and me. But we did see some tangible signs of unrest: banks and shops barricaded, walls of sandbags at strategic points, and trainloads of people leaving the town. The trouble culminated very early in the morning of New Year’s Day of 1896. While still in bed, we heard the clatter of horses’ hooves passing along Wilhelm Street: a Boer commando on its way to intercept the raid on Johannesburg by Dr Jameson.”¹⁰

This public excitement was followed just over a month later, on February 19 1896, by something much more dramatic, from a child’s point of view.

Tom Adlam remembers it well:

About four o’clock, on a bright sunny afternoon, I was walking leisurely home from school by myself, thinking of nothing in particular, contentedly chewing the stray end of the shoulder strap of my school bag... and had just passed the site of the fountain in the centre of the Park. Suddenly the ground trembled underfoot, and what looked like a great column of black cloud shot up into the sky beyond the tall gum trees of the Wanderers’ Grounds. Then there was a terrible echoing, thunderous roar

while the black cloud rose higher and billowed outwards. For a moment I was paralysed with fearful dread. ‘This,’ I thought, ‘is IT – the End of the World!’

I started to run home like mad, and home lay *towards* the awful thing. That record sprint got me to the house in a minute or two. To my great relief, I found my mother and brothers there alright, but in a state of great agitation. The house was filled with clouds of dust. The window of the west-facing bedroom had fallen in, frame and all, and lay across a bed leaving a large gaping hole in the brickwork of the wall. Bricks and mortar lay strewn all over the floor. Glass in other windows were shattered, but the wooden frames remained in position... Later my father came in and told us there had been an explosion at the railway siding nearly two miles away to the west.¹¹

What had happened was that a trainload of blasting gelignite – about 55 tons or 3 000 cases of it – had been left standing at Braamfontein station for three days in the blazing February sun. About 3.15pm the train was hit by a shunting locomotive and exploded, different accounts claiming the sound was heard anything from 10 km to 200 km away. At least 60 people were killed, although this figure could have been higher (Jacobsson puts it at 80) and more than 200 seriously injured. Oscar I Norwich in *A Johannesburg Album* says there were between 78 and 130 deaths, “and a few boxes of human remains”. Parts of Newtown – then known as Brickfields – and Vrededorp were destroyed, and up to 3 000 people lost their homes. Various accounts say that every window in the centre of Johannesburg was shattered. The bodies were laid out at the nearby Wanderers’ Grounds for identification, “and President Kruger, who came from Pretoria at the first news of the disaster, looked at the bodies of the children and wept”.¹²

Tom Adlam adds: “We went to see the damage a few days later. A large hole, 30 feet deep and 200 feet long, marked the position where the train had been. Sets of rails, leading to this pit, were curled upwards in fantastic shapes and heaps of rubble were all that remained of buildings in the neighbourhood.”¹³

In April 1896 The Star newspaper reported £130 000 had been raised by the citizens of Johannesburg in aid of the victims. There is a memorial to the dead at Braamfontein Cemetery.

While the governments of the Transvaal, Cape Colony and Britain were dealing with the aftermath of the Jameson Raid, children in Johannesburg had other concerns. Tom Adlam describes the swarms of locusts that would periodically sweep through Johannesburg, eating anything green, and arriving in the park in clouds. “They clung to the foliage of the trees and

the grass was thickly covered with their brown bodies. ... The hens had the time of their lives, running after them, pecking and eating until they could run no more and just fell down, surfeited. In a few hours, the locusts rose in swarms, with a rustling noise and flew away, having devoured nearly all green vegetation, except the leaves of the gum trees, for they did not care for the taste of eucalyptus.”¹⁴

People got around town in horse-drawn trams, and Tom Adlam remembers seeing pairs of Africans employed to walk along the tramlines with metal-tipped sticks, cleaning out dust and dirt from the grooves in the rails. If this were not done the wheels would get clogged with earth and the horses could pull the trams off the rails. You could also hire a four-wheeled cab. “We used to envy the prowess of some bigger boys able to run after a cab, hold on the rear, out of sight of the driver, and get a free ride sitting on the back axle. All went well until a fellow cabby shouted: ‘Slatachter!’ or ‘Whip behind!’, when the unauthorised passenger had to jump off quickly.”¹⁵

The first horseless carriage in the Transvaal, a Benz Voiturette, was put through its paces in Pretoria and then at the Wanderers’ Ground in Johannesburg in January 1897. It was bought by a coffee retailer called AH “Coffee” Jacobs who drove it around to advertise his business. This car was viewed by thousands, almost certainly including the Cogeens, when it led the procession of floats through Johannesburg in June 1897 to celebrate Queen Victoria’s Diamond Jubilee. Tom Adlam described floats that included a graphic representation of the years of Rand gold production. Horse-drawn lorries, one for each year of mining, paraded slowly by, each bearing a gilded sphere representing the amount of gold mined that year. The first sphere, for 1886, was about the size of a football, the last so big it hung over the sides of the lorry. There were “illuminations” – little oil lamps or candles in coloured glass globes and Chinese lanterns, and some of the bigger shops and hotels which had their own electricity supply, had portraits of the queen picked out in lights.¹⁶

Part Four – Phthisis

There are many ways to die in a mine, most of them violent. The more insidious way is disease. William Cogeens died of what was called miner’s phthisis in October 1911.

From the earliest days phthisis was a killer on the Witwatersrand, and Cornish and Manx miners went home to die in their scores. Nowadays the condition is known as silicosis, but it remains a scourge of South African mining.

Various legal cases are pending. Along with a widow, 23 silicotic miners who had worked on the Anglo American-owned President Steyn gold mine in the Free State, registered a case in 2004, claiming they had contracted silicosis due to dust inhalation on the mine. The Cape Times quoted their lawyer, Richard Meeran of the British law firm Leigh Day and Co, saying of Anglo American: “They [no] longer have gold mining interests, but that does not mean they do not have gold mining liabilities.”

While the arbitration case directly involved only a handful of miners, there were “thousands, maybe tens of thousands”, affected by silicosis. “It’s not unfair to say these are people who have been left on the scrap heap by the mining industry.”¹⁷

This case was settled out of court in September 2013 with a confidential agreement, but Meeran described it as a major breakthrough for the workers. “All I can say is it involves a payout of money, and our clients are happy. This settlement shows that the writing is on the wall and that settlements are overdue.”

Meeran said the general level of compensation for a silicosis sufferer might be R450 000, taking into account medical expenses and loss of income.

In a statement published in Business Day on September 26, 2013, Anglo said the agreement to settle the litigation was in the best interests of the claimants, their families and the company. But it “firmly disputed liability on these and thousands of other pending actions instituted by former mineworkers and their beneficiaries”.¹⁸

A bid by Meeran’s firm to bring another case against Anglo, this time in a British court, involving more than 1 700 former miners, was defeated in July 2013 when London High Court Judge Andrew Smith said the UK courts had no jurisdiction over the matter. But Meeran described this as a “minor setback” and said the case would now be brought back to South Africa.¹⁹

AngloGold Ashanti has also been targeted by disgruntled former employees. In 2012 31 miners took the company to the South Gauteng High Court seeking compensation for silicosis allegedly contracted while working for the Vaal Reefs gold mine between 1968 and 2008. Their lawyer, Zanele Mbuyisa, assisted by the same British law firm, Leigh Day and Co, said they had been “working extensively with in the communities in the Eastern Cape, Lesotho and the Free State, which have been devastated by the impact of silicosis and tuberculosis.”²⁰

Over a century ago it was communities on the Isle of Man and in Cornwall that were devastated. The price of tin fell towards the end of the 19th century, and it has been estimated that a staggering 30 000 people emigrated from Cornwall in the 1890s, many of them going

to Johannesburg. About 30 percent of the Cornish in Johannesburg came from a single tin-mining area – Redruth, my own birthplace.²¹ Miners wrote home approvingly of the climate, the good wages – £20 to £30 a month compared with an average £6 in England – and perhaps best of all, “the amount of manual labour falling to the lot of the white hands being reduced to a minimum, owing to the employment of natives”.²²

William was one of the hundreds of miners who sent money home to his family, and all these payments helped keep the Cornish economy afloat. In her book *The White Death: Silicosis on the Witwatersrand Gold Mines 1886-1910*, Elaine Katz writes that every Friday a crowd of people would wait in Redruth for the train that brought the South African mail and money orders. “In 1895 it was estimated that the Redruth district received on average £8 000 to £10 000 a week from its mining kin abroad.”²³

But the Rand mines were full of silica dust that could kill miners, particularly rockdrillers, in four or five years. Many of them, once they were unable to work, went home to Cornwall to die. Redruth, interestingly, was the only place that kept official silicosis mortality statistics for miners coming home from Johannesburg.

In 1901 the Transvaal Mining Engineer reported that 200 – or 17 percent – of the pre-Anglo-Boer War rock drillers had died of silicosis. In 1910 a consulting mining engineer called E J Moynihan compared the death rates of British soldiers in the war with those of Witwatersrand miners and concluded the soldiers had had a better chance of survival. He wrote: “Mining is more dangerous than war; but the miner gets no medals.”²⁴

In 1902 the Miners’ Phthisis Commission found that almost a quarter of the white underground mineworkers had phthisis, and that rockdrillers were dying on average at the age of 33.

Referring to foreign miners who worked on the Rand both before and after the Anglo-Boer War, Katz says “almost an entire generation of foreign miners, whose skills pioneered the South African gold mining industry, died from silicosis”.²⁵ William was one of them.

In 1912 South Africa passed the South African Miners’ Phthisis Act, which provided compensation funded from a levy on the industry. The employers paid 5 percent of the white miners’ wages, of which the miners themselves paid half. (Two years later the levy was raised to seven percent, of which the employers’ share was increased to 5 percent.) Because silicosis took years to develop, the fund also paid compensation to the families of those who had succumbed several years before.²⁶ I assume this means that Martha was able to claim a pension as the widow of a silicotic miner.

D Jacobsson, former mining editor of *The Star*, wrote in 1936 that by March 1935 the Miners' Phthisis Board had paid out over £15 million to white miners and their dependants, and over £1 million to "native labourers". He added unblushingly: "These are big figures, but the industry does not allow its monetary liabilities as created by legislation to set a limit to its concern for silicotics."²⁷

Katz is unconvinced. She wrote scathingly in 1994:

What is striking is the lack of attention that has been paid to this shocking facet of the Rand's social history: the issue is studiously avoided in popular and institutional histories of the industry (for the most part simply public relations exercises), while only a handful of brief academic articles and essays address the problem directly. This is most surprising as from 1902 to 1925 silicosis was the subject of no fewer than nine legislative acts, six commissions, ten parliamentary select committees and four major state-industry reports.²⁸

Everyone in Johannesburg owed their living, however indirectly, to the success of the industry, and no one wanted to focus on mining's dangers. It was known that dust caused phthisis, yet measures to control it were expensive. With the price of gold set, anything that increased the cost of production cut into profits. The press tended to follow the industry line, and so did the state; what was good for the industry was good for everyone, unless you happened to be a miner. Even miners themselves tended to accept that dying young of lung disease was an occupational hazard.

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Silicosis is an incurable occupational disease caused by prolonged exposure to dust containing minute particles of silica. Miners are not the only ones at risk; stone masons, road builders, potters, sand blasters and foundry workers were – and are – vulnerable. In Britain in the 19th century silicosis was often known as "potter's rot" and "grinder's rot".

There are two basic types, chronic silicosis, which develops slowly and is probably the form William had, and accelerated silicosis. Both forms make the sufferer vulnerable to other lung diseases, especially TB.

Inhalation of silica dust causes scarring of the lungs or fibrosis. This reduces lung capacity and can lead to crippling shortness of breath and heart failure. Lungs are naturally light and spongy, but silicosis makes them dense and heavy. Dr W C C Pakes told the Miners' Phthisis Commission of 1902/03 that if a silicotic lung was removed from a body

and placed in water, it sank “like a stone”, was three times as heavy as a normal lung and was difficult to cut with a knife.²⁹

In an article called *Miners’ Phthisis* in the Transvaal Medical Journal of September 1912, Drs L G Irvine and A H Watt wrote:

As the disease progresses to the stage of advanced fibrosis the cardinal symptom of shortness of breath becomes more urgent and distressing; the irritative cough more frequent; expectoration may become more copious, but is still in most cases light. The patient becomes unable to work, he loses flesh, his narrow shrunken rigid chest may scarcely expand at all even on forced inspiration, the shoulders are hunched, the chest appears to be practically fixed in the position of extreme expiration. The lips are bluish, the expression anxious, the pulse rate is accelerated, and the right side of the heart dilates under the strain.³⁰

Doctors on the Rand doctors believed that sharp silica particles cut the lungs, causing scarring. Today it is thought that a combination of the nature of silica itself and the ability of the lungs to clear dust may be responsible. Defensive lung cells have enzymes that destroy foreign bodies, yet silica particles seem to resist the action of these enzymes. This leads to chronic inflammation and scarring.

Drilling and blasting underground produce copious amounts of dust. Rock drills produce 10 to 20 percent more fine dust than hand drills³¹, partly because they drill deeper, wider holes. In 1895 more than 90 percent of Witwatersrand mines used rock drills, and by 1898 there were around 2 000 rock drills in use.³²

In 1904 Dr Norman Pern wrote: “Unless one has actually witnessed a rock-drill in operation, especially when ‘raising’ [drilling upwards], when it is frequently difficult to distinguish a man’s form six feet off... the only wonder is that they live as long as they do.”³³

Drilling was followed by blasting. The dust did not simply disappear – it was carried throughout the mine, and breathed in by everyone.

Apart from essential maintenance work, mining did not take place on Sundays, so that Monday mornings were the only time the workings were dust free. Katz quotes the union organiser, Thomas Mathews, telling the 1907 Mining Industry Commission about the visit of Colonial Secretary Joseph Chamberlain to a mine in 1903, which Chamberlin described as “beautiful”.

“Matthews wondered whether Chamberlain had ‘gone down underground at the expiration of blasting’ ... and then supplied the caustic answer: ‘No fear, he went down on Monday morning when everything was clean and beautiful’.”³⁴

It wasn’t only on the Witwatersrand that miners were vulnerable. Britain’s chief statistical officer, Dr William Ogle, told the Labour Commission in 1892 that, based on mortality tables for 1880, 1881 and 1882, British tin miners “had the highest death-rate from disease of the lungs of any occupied class in the United Kingdom”. Their death rate was on average three times that of coal and ironstone miners of the same age groups.³⁵ However, neither the state nor the medical profession was particularly interested; falling tin yields meant the industry wasn’t anything like as important to the British economy as coal.

But conditions on the Witwatersrand were particularly dangerous. The poor quality of the Reef’s gold deposits meant production had to be pushed. In 1892 the Witwatersrand was the fourth largest gold producer in the world after Australia, the United States and Russia; just three years later it was the world’s largest gold producer, producing 20 percent of the world’s annual output.³⁶

In May 1901, a year after British forces had taken Johannesburg, the first three mines began operating again. Although British miners were returning to the Transvaal, many of the best rockdrillers had not come back – they were dead.³⁷ The Department of Mines launched its own investigation which was, says Katz, “neither meticulous nor exhaustive”, but even so produced appalling results. It found that in the 15 months between October 1899, when the war began, to January 1901, a total of 225 of the 1 377 pre-war rockdrillers had died of silicosis. Their average age was 35. Other figures, quoted in the Government Mining Engineer’s annual reports of December 1901 and June 1902, showed that 400, or more than a quarter, had died.

After the war, many former mining officials were appointed to key positions in the Department of Mines. One was a former mine manager, Horace Weldon, who became both Government Mining Engineer and Chief Inspector of Mines, and later acting Commissioner of Mines. People like Weldon, with their background in mine management, did not look sympathetically on the plight of the working miners. Weldon was to learn the folly of this approach.

Because the disease developed insidiously, “until the damage was irreparable, an individual miner was often completely unaware that his life was in danger”. Writing in *The Lancet* in June 1902, British physician Sir Thomas Oliver said: “It was a not uncommon

experience for a gold-miner on the Rand to be pronounced fit for work, after a careful examination, and yet to die from miners' phthisis 8 or 9 weeks later."³⁸

The problem from the miners' point of view was that silicosis didn't affect anyone else in the Transvaal, so that Milner and the Transvaal doctors were not overly worried. But concern was rising in Britain, where many of the miners still had homes and where many mining shareholders lived. Also the number of Cornish miners returning to the Redruth area to die was skewing local mortality figures. This was why doctors there began collecting statistics to show that the cause was not Cornish mining practices but Transvaal ones.

In August 1902 a Dr J Brown wrote to the Colonial Secretary, Joseph Chamberlain:

In my yearly visit to my native county of Cornwall I have been deeply impressed by the fearful death rate which occurs amongst Cornish miners who have returned from Johannesburg... In my recent visit... we calculated that there were almost 40 miners who have died, men who would be in their prime. As many as three in a family. ... I know of no trade as dangerous as that of the fast method of working the deep levels of the S African gold mines. What I propose is that immediate steps be taken to ascertain facts. The death-rate among the Cornish miners as far as I can get information is a scandal to our civilisation.³⁹

A few months later, the MP for Redruth, W S Caine, raised the matter in the British parliament, and quoted statistics to show that at least a third of the 104 Redruth men who had died from phthisis in 1900 and 1901 had worked in the Transvaal. Finally, after pressure from London Lord Milner announced the appointment of the Weldon Miners' Phthisis Commission of 1902-1903, but despite its findings and recommendations, nine years later there had been no "marked change" in the prevalence of silicosis on the Witwatersrand since 1903, and 800 to 900 new cases were being reported every year.⁴⁰

The commission found that dust was the cause of phthisis, and that improved ventilation was necessary along with the use of water to allay dust when drilling. But generally the mine owners ignored most of the commission's findings, and it was not until January 1906 that dust prevention became compulsory in the Transvaal through using wet methods and delaying re-entry after blasting.

And even then the new regulations were not enforced. Katz says of Weldon, still Acting Commissioner of Mines:

[He] not only wanted to obviate friction between his department and management: he studiously went out of his way to avoid it. He knew full well which

side his bread was buttered, and did not wish to lose his job... Although Weldon tried hard not to offend the Randlords, his department's policy of co-operating with management went much further. It was nothing short of appeasement...⁴¹

Less than a year after his regulations had been introduced, Weldon withdrew them all, but he didn't save his job. He was retrenched in 1908, and four years later, in 1912, aged just 43, he died of silicosis himself.

The Mining Regulations Commission sat in 1907 and produced its final report in August 1910. It found that the death rate among white miners of 20 and older was six times higher than that of white non-miners. It also found that the death rate was 11 per thousand a year among white underground workers. But a private consulting engineer, E J Moynihan, rejected these figures, saying the situation was much worse than that. The commission's premise was flawed, he said, in that there were a great many old men among non-miners, "whereas, on the mines, to all intents and purposes, there are no old people at all".⁴²

His own estimate of mortality was around 30 per thousand which amounts to about 210 silicosis deaths a year. Two Transvaal doctors, Donald Macaulay and Louis G Irvine told the commission that 31 rock drillers per thousand had died in 1907, not including many sick miners who had gone home to England. "It would appear thus that at least one-third and probably a greater proportion of the disabled Rand miners left the country and died elsewhere."⁴³

If statistics for white miners were dodgy, they were virtually non-existent in the case of African miners who had gone home to die. Katz reports that by 1914 there had been no official investigation of silicosis among Africans. But they certainly contracted the disease: Dr Louis Irvine told the Mining Regulations Commission that after the Anglo-Boer War "very few of the old stock of boys" had returned "because of the tremendous mortality in their own kraals".⁴⁴

The men from Portuguese East Africa, who tended to work longer contracts because they came from further away, were "unquestionably more susceptible" to silicosis than local Africans.⁴⁵

For a variety of reasons, white miners tended to contract "simple" silicosis uncomplicated by infection, while blacks developed silicosis complicated by TB. In his book *South Africa's Gold Mines and the Politics of Silicosis*, Jock McCulloch writes that after 1911:

Simple silicosis in whites tended to become chronic, and many white miners survived into their fifties, although the majority in ill health. Black miners developed tuberculosis and died quickly in their villages.⁴⁶

They passed TB on to their relatives, too.

The 1907 Transvaal Workmen's Compensation Act excluded silicosis from the list of applicable diseases. Before the passing of the SA Miners' Phthisis Act in 1912, which did provide for compensation, it had been up to the miners themselves to look after each other. One wall of the Transvaal Miners' Association office was papered with subscription sheets for widows and fatherless children. Mary Fitzgerald, secretarial assistant to the union from 1902 to 1906, wrote in autobiographical notes that her main job was to take collection sheets around the various mines to raise funds for miners' funerals.⁴⁷

There is no question that the problem of silicosis is a complex one, but it seems extraordinary that it is as intractable today as it was a century ago. Writing with reference to the 2012 Marikana deaths and the bitter internecine battles between miners' unions today, social analyst Brian Rostron says the roots of the current mining crisis go back to the days of Cecil John Rhodes and the years after the Anglo-Boer War.

With a shameful safety record, [the industry] remains reliant on low-skilled migrant labour; living in degraded shack settlements, often forced by miserable wages into debt bondage. Our rural areas are still full of men dying from respiratory diseases, contracted both before and after apartheid, while working for mining companies.

And writing in mid-2013, he adds: "After nearly two decades of democracy... it is widely accepted that the industry has failed to significantly restructure itself."⁴⁸

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William Cogeen died of silicosis in 1911 at 60. I suspect that his relative longevity was due to two factors: that he was not a rockdriller but a general miner, and that he had come to the Witwatersrand when he was already in his 40s. He also had close to two years away from the mines during the Anglo-Boer War. Katz says chronic sufferers, as opposed to acute accelerated sufferers, often lived up to 22 years after starting work on Johannesburg mines.

Like many other mining widows, Martha Cogeon was unable to pay for his funeral; that bill was picked up by her son-in-law, Thomas Hope, himself a miner who succumbed to silicosis.

William was buried in the new Brixton cemetery, now a pleasant place of mature trees and lawns, despite the tsotsis, but then probably somewhat desolate. His long journey from Laxey on the Isle of Man via Cornwall and Colorado had ended in this raw mining town.

University of Cape Town

CHAPTER SEVEN – WAR

Interlude: Johannesburg – December 1898¹

The Monday before Christmas 1898 William came home from the mine to be met by a wide-eyed Martha.

“Did’ee hear about the poor young man from Lancashire shot dead by one of them Zarps?” she asked him.²

William had. The news had spread rapidly among the British expatriates on the Rand, and people were feeling disgruntled.

“Sit down and I’ll dish up,” said Martha. “Girls – wash your hands.”

The two girls, 12 and 14, sat down at the kitchen table as Martha ladled a nice bit of mutton stew into their bowls, still talking about the event that had rocked the town.

“The Zarp, he kicked down this man Edgar’s front door and shot him down dead, right in front of his poor wife.” Martha took off her pinny and joined her family at the table. “It won’t do. And they had a little one, poor soul.”

“But why did he do that, Ma?” asked Katie.

“Because those Zarps are thugs,” said Martha. “Ignorant thugs. And they can’t even speak English properly.”

William buttered a slice of bread and said mildly: “My love, you’re being a bit hard. The man, Edgar, he’d knocked someone down. The Zarps thought he’d killed him.”

“Well, even if they did, that’s no reason to shoot a man before you ask him a single question.”

Over the next few days the story became clearer. The Star said that on Saturday night Edgar, a boiler maker working at E W Tarry’s in Harrison Street, had left his wife Bessie and four-year-old child at home at Florrie’s Chambers near Marshall Square, and gone out for a drink or two. He came home between midnight and 1am on the Sunday, and had an argument with a neighbour in the alley outside his home.

¹ The information in this Interlude is drawn from Thomas Pakenham, *The Boer War* pp 51 to 53; from Diana Cammack, *The Rand at War*, pp 18 to 23; and The Star, December 21, 1898

² Johannesburg’s 600 Zuid Afrika Republiek police or Zarps were Dutch speaking, referred to as “poor whites”, and not admired by the English residents of Johannesburg. They had the task trying to police nearly 100 000 Johannesburg people.

Martha, reading the article to William, said: "This man, the neighbour, called Foster, told him to voetsak, and then Edgar knocked him down. Well, I should think so. What'ee want to speak to him like that for?"

"Why did he tell him to voetsak?" asked William.

"It doesn't say," replied Martha.

Bessie Edgar told the newspaper her husband had come in, perfectly sober, and said the men outside had been "impudent" to him. Four Zarps arrived at the Edgars' front door and making a fearful noise, burst it open.

Martha said: "The poor woman. She says she and her husband rushed to the front door, and Edgar had just got there when she saw the policeman lift up his gun and shoot him. It says: 'He fell back and died almost immediately'. He never said a word before he shot him. In his own house, too."

William said: "I heard Edgar'd threatened the Zarp with a stick."

"It doesn't say that here," said Martha. "That ol' Zarp probably just made that up."

"And it says another neighbour called Joseph Friedman was right there at the door, so close that some of Edgar's blood splashed on his face. Ugh."

"And look, William, that Zarp, he's called Jones – I don't know how a Dutch policeman got himself a Welsh name like Jones – he was arrested for murder but now they've dropped the charge to culpable homicide and let him out on bail."

William said: "That doesn't seem right."

"It certainly doesn't. There's to be a protest – they want lots of British to join in on Market Square on Friday to tell the British vice-consul what they think. That's Christmas Eve – you won't be working. You could go. You should go."

"Well," said William. "I don't know about that."

Martha was firm. "You must go, William. Think of that woman Bessie, What if it had been me, widowed by a Zarp? Jones is out, walking the streets and probably threatening other people, and that poor man Edgar is on a slab. We're British subjects, William, and we can't be doing with treatment like that from those people in Pretoria."

Part One – Rumbles of war

By the late 1890s the Cogeens were settled in Johannesburg, going about their daily lives. The Jameson Raid of New Year 1895/1896 had caused some excitement, but things had settled down. While the raid had had a fundamental impact on the big picture of Transvaal and ultimately Imperial politics, the ordinary Uitlanders were more concerned with rising prices, wages, working conditions, the quality of schools, getting the potatoes peeled in time for dinner and the thousands of everyday issues that occupy all our minds.

The leaders of English-speaking Johannesburg society, former members of the Reform Committee who had backed the raid, as well as their friends and associates, saw a different future for the Transvaal than that presided over by Kruger. Possession of the goldfields was desirable, and then there were the imperial dreams of wanting to see the Union flag flying from Cape Town to Cairo, a united South Africa loyal to Britain, “a self-governing White community, supported by well-treated and justly governed black labour, from Cape Town to the Zambezi”.¹ And the way to draw the Transvaal into the Empire, reasoned the wily and ambitious Sir Alfred Milner, governor of the Cape Colony and High Commissioner for South Africa, was to focus on civil liberties for the Uitlanders.²

The Uitlanders had genuine grievances. These were both the economic, such as the hated concession system which allowed government-appointed people to control the supply and price of dynamite and also the transport system, and the socio-political, which included issues like the franchise, education and race policies, and police reform.³

The franchise is the issue that has stuck in everyone’s memory as the “cause” of the Anglo-Boer War. When gold was discovered in 1886, a foreigner could acquire the vote in the Transvaal after five years’ residence. But as thousands of people poured into the country, it became clear they would soon outnumber the 40 000 Boer voters and could then potentially take control of the country. So in 1890 the law was changed, raising the residency qualification period to 14 years. This was a source of anger to many Uitlander leaders, who knew very well that their investment and hard work had saved the Transvaal from bankruptcy. What with the mining licences, taxes and excessive charges for transport and dynamite, the gold industry was bankrolling the republic. Yet it was a case of taxation without representation.

But how much did Johannesburg’s average British working man – there was no question of women being enfranchised – care about the vote? Not a lot, it would seem. Most meant to return to England to their families eventually, and those who planned to stay, like

the Cogeens, had no intention of taking out Transvaal nationality anyway, especially if this meant they might lose their British citizenship.⁴ Others, believing the Transvaal government supported the white working man against the Randlords, didn't fancy living in a country run by those same Randlords. The *Standard & Diggers' News*, a pro-Boer newspaper published in Johannesburg in English, quoted one British working man:

As regards the franchise, how many men, if full burgher rights were conceded, would accept? Not one in a thousand with their own free will, but the big [mining] houses would compel each and everyone to register, and so enable them (the capitalists) to run the men they wish for the constituency and put pressure upon all hands in their employ to support their candidate. Of course the men are supposed to vote freely, but – and a big but – if there was any opposition to their views the result would be 'voetsak'.⁵

But this was all "politics", of interest to some and ignored by many in the everyday struggle to get on. What did get people talking, though, and even taking to the streets, was the Thomas Edgar affair which unrolled three years after the Jameson Raid. Few South Africans today have heard of Thomas Jackson Edgar, but the name of the young boilermaker from Bootle in Lancashire was briefly known around the British Empire.

In his book *The Boer War*, Thomas Pakenham says it is thought that Foster, the man whom Thomas Edgar knocked down, had had his dog with him in the alley and told the dog to "voetsak", a remark misinterpreted by Edgar.

The shooter, Constable Barend Stephanus Jones, later claimed he had fired in self-defence, as when the door opened Edgar had slashed at him twice with an iron-shod stick. Pakenham says: "This was probably true, as a stick of this sort was later found in the doorway."⁶

When the charge against Jones was reduced from murder to culpable homicide, and he was released on bail of £200, the Uitlanders were outraged.

Two organisations, the South African League and the Uitlander Committee, were working to promote British and Imperial interests on the Rand, and the Thomas Edgar affair played right into their hands. The league, says Diana Cammack in her book *The Rand at War*, was made up of men whose "...main aim was to create the impression in Britain and the colonies that the Rand's foreign population was united in its opposition to Kruger".⁷

Flyers called on "British subjects resident on the Witwatersrand Goldfields" to join what they called a "representation" on Christmas Eve to the British Vice-Consul in Johannesburg to protest against the shooting, the reduction of the charge against Jones, and

his “totally inadequate” bail. A footnote on the notices read: “It is hoped, in order to make the REPRESENTATION as impressive as possible, that a large number of British Subjects will attend.”⁸

A petition was circulated and signed, but unfortunately for the Uitlander Committee and the SA League, Milner was away from the Cape and his stand-in, General Sir William Butler, declined to send it to London. He wrote privately to the Colonial Secretary, Joseph Chamberlain, that he believed the outrage over the Edgar case was “largely artificial... being worked by a combination in which the action of the Press and the South African League could scarcely be distinguished from each other.”⁹

The beleaguered Transvaal government, rightly suspicious of Uitlander motives, now blundered. It arrested the organisers of the Christmas Eve march for breach of the Public Meetings Act, and released them on bail of £1 000, five times the bail that Jones had paid. This led to further Uitlander fury. By now even the mildest Uitlanders, like William, were upset. A second demonstration was organised, with permission this time, for January 14. The second meeting was broken up by several hundred Boers who attacked the Uitlanders with broken chair legs, while the Zaps stood by, watching.

In February 1899 Constable Jones went on trial in Johannesburg. The judge was a fiery young Boer called Antonie Kock, aged just 25, whose father was in Kruger’s executive. In Pakenham’s words Kock “virtually directed the jury to acquit”,¹⁰ which they did, and Kock praised Jones for having done his duty. The Transvaal prosecutor, F R M Cleaver, commented: “The Judge has knocked a big nail into our coffin today.”¹¹

Further meetings took place up and down the Reef and in March 1899 a second petition, this time signed by 21 000 Uitlanders, was taken to Milner in Cape Town, and sent on to Her Majesty’s government to intervene. To reinforce the message, on May 4 Milner sent Chamberlain a telegram whose diplomatic language did not disguise the threat it contained:

The spectacle of thousands of British subjects kept permanently in the position of helots [serfs], constantly chafing under undoubted grievance, and calling vainly to Her Majesty’s Government for redress, does steadily undermine the influence and reputation of Great Britain and the respect for the British government within its own dominions.¹²

Talk in Johannesburg was all about the possibility of war – even children noticed. Ethel was 13; Tom Adlam, the boy from Joubert Park who was 11 at the time, writes:

I remember the serious conversations between my parents and their friends on such matters as 'the franchise', the position of the 'Uitlanders', and the shooting of an Englishman named Edgar by a Zarp. The Jameson Raid atmosphere seemed to be with us again. Talk of wars became commonplace... Newspapers were full of the sayings and doings of Mr Chamberlain, Sir Alfred Milner, President Kruger and President Steyn... [But] the political turmoil, so deeply troubling our elders, meant nothing to us...¹³

In June 1899 President Steyn of the Free State hosted a five-day meeting in Bloemfontein between Kruger and Milner to defuse the building tension. Ostensibly Milner was doing his best to find a solution; in fact he was terrified that Kruger might actually back down and give the Uitlanders what they wanted. In fact Kruger almost did just that, in the form of a Reform Bill that would have cut the franchise residence period from 14 years to seven, and offered the Uitlanders five seats in the Volksraad (Milner had demanded five years and seven seats). Pakenham writes: "Yet, despite everything, could it not have been bridged, that gap which now divided the two men...? So it would, without a doubt, if Milner had aimed to negotiate and not to 'screw' Kruger."¹⁴ But true negotiation had never been Milner's intention. The conference ended with Kruger, his eyes watering, saying: "It is our country you want."

A few weeks later The Star carried a brief article datelined Pretoria July 10 under the headline: "The Widow Compensated".

Mrs Edgar, whose husband was shot by a constable during a disturbance outside his house at Johannesburg, has been compensated by the Transvaal Government for her loss, in order to prevent British intervention.

By then it would have taken a lot more than compensation for Bessie Edgar to prevent that.

Part Two - Flight

Ironically one of the first results of the struggle for Uitlander rights was to drive the British residents from their homes into an uncertain future. As early as May and June 1899 they started leaving, mostly the professional men, their wives and children, travelling in comfort with their African servants. Those two months accounted for around 8 000 departures, but by July between 250 and 500 were leaving every day.¹⁵ The second wave

“brought the shopkeepers and better-off working men: people like Tom Edgar’s mates, from Florrie’s Chambers and Tarry’s ironworks; Cornish miners and Lancashire boiler-men – the ‘White Kaffirs’, as they sometimes called themselves”.¹⁶

The Cogeens might have been part of this group, but I believe they hung on a little longer. Perhaps they were hoping war might be averted. Katie was almost 16 – her birthday was in November, and Ethel was 13. Ahead was the unknown – if they left, where would they stay, what would they live on, what would happen to their things left behind in Johannesburg, would they come back? But there was also the fear of what might happen should they stay. In the heated words of one man: “We must get away, what do our homes, our gardens, our pets matter when our lives are at stake – Boers are going to level Johannesburg to the ground, walk over the bodies of our wives and children, make us work in the trenches and put us in front of the commandoes as targets for our own countrymen to shoot at.”¹⁷

The rate of departures increased in September, with as many as 2 000 people leaving on September 20 alone, and in the last few days of the month, as people collected their wages, the figures surged to 4 000 a day.

A fervently pro-British woman who stayed behind in Johannesburg was a second-generation South African called Isabella Lipp, the wife of the manager of the African Banking Corporation, who kept a diary through the eight months Johannesburg was under Boer control. Although they sent their young sons to relatives in Natal, the Lipps took an oath of neutrality and were allowed to stay because the Transvaal government needed to retain certain aliens considered necessary to keep Johannesburg running.

Whatever the official causes of the outbreak of war, the last straw according to Lipp was the seizure by Pretoria of rough gold being forwarded by the banks to the Cape, which led to “practically all hopes of a peaceful Settlement” being abandoned. She writes:

A sum of not less than £830 000 or nearly a round million sterling was sent off by the Cape mail on Monday October the 2nd 1899 – it was the first instalment of the September output from the mines. The train was allowed to proceed as far as Vereeniging, the border station on the Transvaal side of the Transvaal and Cape Colony. There the cars, containing the gold were unhitched, and despatched to Pretoria.

This act caused a great sensation, as according to the besluit [decision] dealing with such matters, such acts could only take place when the country was in a state of war and as far as public knowledge went, peaceful and diplomatic negotiations though strained, were still being continued between the British and Boer Governments. What

made the matter worse was, the ownership of the gold was very far from being only British. Shareholders of all nationalities were interested parties...¹⁸

The war began formally on October 11, and by October 18 all unregistered aliens had to leave, bringing the total number of white people who had left the Rand since May to 100 000. A similar number of blacks left too, many on foot.

Many but not all of the mines closed down and the stamps went quiet, so that an unaccustomed silence descended over Johannesburg. The Boer government kept three mines going – the Robinson, the Bonanza and the Ferreira Deep, for its own profit. Other mines, such as the Village Main Reef, the Wemmer and the Worcester, were still being run by their owners, with a government representative at each to ensure they were being worked according to government terms. Most of the miners working these mines were either British or from the South African colonies, and unwilling to give up their jobs. On the other hand, they did not want to be seen to be working against British interests.¹⁹

The working miners needed permits to stay, and had to abide by the rules of the Rust en Orde Commission running Johannesburg. Many did so: Rust en Orde commission records show that in the early months of the war nearly 60 percent of the 204 white miners on the Village Main Reef were British, and 57 percent on the Wemmer. But the numbers began to drop as the months went on.

Refugees left by train for Durban, thousands more went to Cape Town. As the panic had increased in late September 1899, Uitlanders also fled to Delagoa Bay, from where they sailed either home to Britain or to Natal and the Cape; the Adlams of Joubert Park took this route, and spent the war in Port Elizabeth. To start with the refugees travelled on the scheduled service, but soon the Transvaal railway company, the NZASM (Netherlands South African Railway Company) had to put on extra trains – four were leaving Johannesburg a day in early September – and by early October people were also travelling in open wagons, often coal trucks that had not even been swept, as the Natal Mercury indignantly pointed out. One old photograph, now in the Africana Museum in Johannesburg, shows a host of people – mainly men but some women – standing in a coal truck, some holding parasols. The wry caption handwritten on the print reads: “Transvaal crisis. 1st Class Passengers leaving Johannesburg in Coal Trucks.”

The scenes on the stations – Braamfontein, Park and Elandsfontein, near Germiston – were chaotic. People scrambled for places, sometimes leaving their bundles behind. Children got lost, pets were abandoned.

One evening Isabella Lipp and her husband strolled to Braamfontein station to watch a refugee train leave.

Everywhere little groups of people with small bundles containing a rug or two and perhaps a few sandwiches, with haggard pathetic faces and drooping dejected mien, thinking of the homes they had abandoned, fleeing to an unknown and uncertain future, ... crowds of human beings, women, children and men, white and coloured, waiting patiently for the train whose puffings and shrill whistles, told it was close by. Slowly it came on, and before it stopped – the patient crowd changed like a kaladeiscope [sic] and instead was a frantic, scrambling yelling moving mass of arms and legs, no matter how obtained a place must be got.

‘Father, father come, come, climb up here,’ a little sobbing voice called out, and we saw a little boy of about 13, his face white and distorted climbing over the wheels into a cattle truck while the train was still in motion, and dragging after him an old whitehaired man feeble and tottering.

... so away they went, poor souls, enduring great hardships on the journey to a place of refuge in British territory – packed like sardines in carriages and coal trucks, animal trucks, scarcely standing room, and when the panic was at his height, foodless, without drinks for the little crying thirsty children – no shelter from the burning South African sun, white and coloured mixed indiscriminately – a journey of hours taking days, stoppages at the sidings and stations for many hours while commando trains filled with Boers passed on.²⁰

Tony Leyds, the nephew of Dr W J Leyds, one of Kruger’s closest advisers, also went to watch the refugees leave the city:

All the trains passed under the ‘Pretoria Bridge’ in King George Street [then still known as Wilhelm Street]. On one occasion we boys were standing on the bridge and at first merely waved goodbye. Then some of the bigger boys, who were fiercely sympathetic to the Boer cause, got fairly heavy stones and threw them on the trucks and on the defenceless men in them. The sudden livid expressions of hatred, the clenched fists, the imprecations and threats which came from those below us, from men who could do nothing but promise to revenge themselves, will never be forgotten by me. Although I threw no stones, I have ever felt that I was present at the birth of some of those unforgiving animosities which still sadden our life in South Africa.²¹

The railway line went via Heidelberg and Standerton to Volksrust, just on the Transvaal side of the border. The first station in Natal was Charlestown, followed by Newcastle; the railway line then ran via Glencoe near Dundee, to Escourt, Pietermaritzburg and eventually Durban.

A Durban newspaper, the unashamedly pro-British Natal Mercury, carried reports of the refugees' journeys. On Wednesday October 4 it reported that on September 29 a total of 2000 people had left the Rand, 600 of them heading for Natal. They left in such a rush that a pile of luggage 50 yards long and 10ft high was left on the platform at Johannesburg. "At Elandsfontein [Germiston] (says a passenger), a train full of armed Boers was parallel with us, and we were subject to all the filthy insults that half drunken Boers could level at us, some pointing their guns at us."

Boers, going off to war to defend their country against the might of the British empire, drunk? I read this as the unhappy ravings of an unwilling refugee, but Leyds confirms it:

The first few days of the war were notable for the thousands who thronged Park Station to get away in any coach, truck or goods van available. Then came the departure of the Boer forces for the front. These were men who were going to the southern districts of the Free State, under General Ben Viljoen. When the train, carrying the general with his staff [from Pretoria], stopped at Park Station, Ben Viljoen got out and said he would first have a "sopie" (a drink) before they went any further. The stationmaster rang his bell several times, but Ben Viljoen lingered in the bar, while his men in high spirits fired shots through the glass-roof of the old station. The whole scene (which I witnessed) gave the appearance of boys going to a picnic rather than soldiers going to war.²²

The Natal Mercury report of October 4 referred to the station platform at Standerton being crowded with burghers and the Staats Artillery, "most of the latter in a disgusting state of intoxication".

The burghers jeered and swore at the travellers. One great brute snatched a baby from its mother's arms, with the intention of provoking the father, who kept cool, and the mother obtained repossession of her infant. Six men arrived on bicycles either to board the train or to proceed on the wheels. They were unluckily spotted by a field-cornet, who commandeered them on the spot. At three stations the Dutchmen, immediately they saw passengers trying to obtain water, which the children sorely

needed, cut off the supply. The Boer women joined in the demonstrations of hatred, using filthy language and spitting into carriages. Stones and empty bottles were thrown at the train. At Paardekraal two Boers came to the carriage windows and one struck a lady in the face with his Mauser while the other delivered a tremendous blow with his fist on her throat. When Newcastle was reached, a huge bump had formed on the lady's neck.

In another case, the newspaper reported, a field-cornet told the occupants of a truck that if he had his way he would shoot every one of them who spoke English.

Leaving in a rush as they did, many of the refugees had packed little in the way of food or drink, as they expected to be safely over the border in Natal within hours. But because the Transvaal understandably gave troop trains priority, the refugees found they had underestimated the length of their journey.

Normally the journey from Johannesburg to Charlestown in Natal took around six to eight hours, but having left on Friday evening, they were still in their coaches and trucks on Sunday afternoon, many of the passengers in the open trucks drenched by rain. The Mercury quotes a Mr H Middleboro, a passenger from the Rand, who spoke of their being delayed for 14 hours with no water and food:

As provisions could not be got even at Charlestown, a wire was sent from the place to Newcastle, asking the authorities to prepare food for 200 women and children.

The principal inhabitants of the town, on hearing of the need, at once provided out of their own pockets or larders sufficient supplies for the refugees, and when the train steamed in about 11 o'clock on Sunday night bottles of milk and refreshments of all kinds were brought to the carriages to those who were in sore need. Mr Middleboro asked us to express on behalf of the many who were benefitted, thanks to the men and women of Newcastle for their kindness.

Another Natal Mercury report, datelined Glencoe October 3, quoted refugees saying that the Boers spoke of nothing "but war, and of the horses and cattle they will have when it is over, with farms in Natal, the Cape Colony and Rhodesia".

Meanwhile back in Johannesburg Isabella Lipp wrote in her diary: "It is heartrending to see the lovely suburban homes barricaded, in some cases, with corrugated iron, in others with wood, deserted, neglected, their only occupants some poor starving pet dog or cat, who

faithful to the last, stuck to their posts, though their poor skeleton bodies showed they were more or less starving.”²³

Shops and businesses were also barricaded, and the shops of Pritchard Street, “the Bond street of Johannesburg”, were hidden behind wood and iron. From the beginning of October few of the “better class” of people were to be seen, instead the only people about on the streets were “rough miners, men out of work and ne’er do wells”. Lipp approved of Pretoria’s decision to close all bars, clubs and off-licences, even though this was a hardship to “moderate steady going peaceable men, who had not laid in a stock of Highland Dew”. She added: “The problem was that though the majority of natives were gone, still enough of the very worst type remained to cause crime to run riot, when the fiend brandy was resorted to.”²⁴

Some Boer families whose menfolk had gone to war came to Johannesburg to live, moving into empty furnished houses, and stories abounded of how sometimes a man would come home to his shut-up house to find a Boer family installed, she says.

Other accounts of the war mention theft and looting, although Tony Leyds saw a different side of things:

It says much for the control of the criminal element that most of these houses were left undisturbed and were found so when, after the occupation of the town by Lord Roberts’s forces, the refugees gradually returned. In some cases the Briton fleeing with his family to the coast, left the keys with a Hollander neighbour and on his return a year later found the place clean and dusted.

He adds that his own godmother, Johanna Rienstra of Braamfontein, looked after the houses of her neighbours both right and left, as well as a house across the road for a year. “A camphorwood kist, once the property of Lord Melville, was given to her as a mark of gratitude and is now in the author’s possession.”²⁵

It was of course not just white Uitlanders who were leaving the Rand, the last of whom were ordered out by the Pretoria government in April 1900. While Milner thought the Asians should be sent to India, the Indian refugees themselves disagreed. Some were apparently forcibly deported to India, but many others, along with coloureds – all regarded as British subjects – were shipped to Natal and the Cape.

Then there were the Africans. It is thought around 12 000 blacks were still working on the operational mines at the beginning of the war, as well as others on mines that had shut down for the duration, pumping water and doing other maintenance.²⁶ The government did not want unemployed blacks to remain in Johannesburg, but many had no means of leaving. Mine police and local police conducted a number of house-to-house searches and any

Africans found without the proper papers were either shipped off to work on Boer farms, or sent to aid the Boer war effort. Very occasionally they were sent home. Because those Africans still on the mines had no choice as to where they worked, the government was able to reduce their monthly wages to maximum of £1. This infuriated the black miners, and looting, unrest and drunkenness followed.²⁷

By the time Roberts marched into Johannesburg on May 31, 1900, Diana Cammack says around 60 000 people, fewer than half of them white, were living in the area between the East and West Rand. Most of the whites were burghers, refugees from the colonies and some foreigners – very few were British. About half the blacks lived near the city, and the other half were still living in mine compounds.²⁸

Part Three – Exile and going home

Ladies' Relief Committees had been set up in Durban and Cape Town to help the refugees, but as they continued to flood into Durban in October, the welcome committee was overwhelmed. People were packed into boarding houses, hotels and empty houses first, but still they came. Empty buildings never designed to accommodate lodgers were opened, such as the barracks of the African boating company, and 2 000 men moved into the Durban showgrounds. When everywhere else was full, people were accommodated in tents on the beaches.

The Cogeens must have been among the last to leave the Rand, because they ended up on the beach. This would have been the first time Ethel had seen the sea since the family left Cornwall seven or so years before, and arriving in Durban for an indefinite period must have seemed like a real adventure. From living as a schoolgirl in a semi in the very urban area of Jeppestown, she was now in a tent on the beach in the glorious weather of a late Natal summer, the sea just metres away, and no school to go to. It was something she would still talk about as an old lady. But I suspect the experience palled quite soon; ablution and laundry facilities must have been minimal, the family would have been cramped in a single tent, sand would have got into everything, and there was the concern about an income. Trying to keep house under such conditions would have made Martha teasy, and a teasy Martha was never any fun.

At first the relief committee tried to find work for the refugees, but with the arrival of so many artisans in town, opportunities dried up. It seems that William found a job in Pietermaritzburg because the family soon moved to a boarding house there, where they stayed until allowed back to Johannesburg. Martha can't have thought much of it – the legs of

their beds were placed in paraffin tins to prevent insects walking across them as they slept, and if you turned on the light in an empty room at night, Ethel remembered years later, “the walls were black with cockroaches”.

The last big shipment of refugees, around 1 500 people, left Lorenzo Marques in November 1899 – whites, coloureds and Indians. The Cape and Natal absorbed many of them, with the aid of fund-raising in Britain as well as local fund-raising. No one, hosts or guests, was particularly happy, but it was war time – they had no option but to sit it out.

Meanwhile, after a disastrous start to the war from the British point of view, British troops began to prevail, and on May 31 1900 Lord Roberts marched into Johannesburg and watched as the Union flag replaced the Vierkleur over the Law Courts. Five days later Roberts’s forces took Pretoria. But to Britain’s surprise, this in no way meant the war was over. In fact it would drag on for another two long years.

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The Anglo-Boer War involved vast movements of people; in addition to the military on both sides, thousands of Boer refugees were sent to concentration camps, thousands of Uitlander refugees to the colonies, and thousands of Boer prisoners-of-war to the various camps both in South Africa and abroad, to British-administered islands such as St Helena, Ceylon and Bermuda. And when the war finally ended, their return had to be managed. Among them were more than 70 000 refugees who wanted to go home.

Though they did not appreciate it at the time, the Uitlander refugees had probably had it easiest; their existence had certainly been interrupted and they had lost belongings and jobs, but they did not lose their lives on anything like the scale the concentration inmates did, nor were their homes and sources of income deliberately destroyed.

As soon as Roberts reached Johannesburg the Uitlander refugees at the coast began agitating to go home. But there were a number of problems – people could not be allowed to return to Johannesburg while there was nothing for them to do; until the mines were up and running there was no work. The corollary of this was that the mines could not be recommissioned until there were people to work them. People could also not be allowed back to Johannesburg in their thousands until there was sufficient food, water and medicines for them. As it was, there was a shortage of stores for the people still living on the Rand.

There was also concern about the movement of thousands of people across a countryside to which peace had not yet come – Boer commandoes were still operating in both the Free State and the Transvaal, attacking convoys and blowing up railway lines and bridges. And there was a political concern too – some Uitlanders had joined up to fight alongside

British troops, and had been promised that fellow Uitlanders would not be allowed the advantage of returning to the Rand before they were. With the war not yet over, Milner noted: “One form the mutinousness of the SA Colonials takes is to refuse to fight longer if the Refugees return to Johannesburg.”²⁹

The refugees became increasingly grumpy. One Walter White, working at the water works at Umlaas, near Durban, wrote to his wife in England in August 1900 that the Relief Committee paid them four shillings a day out of which they had to buy their food. “...lots of money it is not... but I would sooner do that than loaf about doing nothing. The work is pick and shovel, laying water pipes to carry the water to Durban; it is Kaffirs’ work but it is all we can get.”³⁰ Others believed that while they were “living in absolute want” in the colonies, Boer families in the concentration camps were being kept, by the British government, “in ease – and what is to them – luxury”.³¹

The whole of the Chamber of Mines executive was allowed back in April 1901, and many mining staff returned. Stamps began pound again, and shops that had been closed for almost two years re-opened.³² By the middle of 1902 around 40 000 people had gone back to the Rand.

The journey home was across desolate war-ravaged countryside. I don’t know when the Cogeens got back, but Richard Adlam, curator of Joubert Park, was allowed to go home in June 1901, a year before the war ended, leaving his wife Grace and three sons in Port Elizabeth. On his rail journey to Johannesburg he wrote a long letter to Grace, describing how their train waited for hours at Rhoodeval Station in the Orange River Colony after a train ahead of them was blown up. For part of the way in the Eastern Cape, from Cookhouse to Cradock, they had an armoured train in front “as Boers are still roaming about”.

Travelling via Rosmead Junction and Naaupoort [Noupoort] they reached Springfontein and a large white tented camp, probably one of the Boer refugee camps. He also saw his first graves, “only a little earth and stones above them”. He was amused at “how eagerly the soldiers run for the papers as we passed the blockhouses at Jagersfontein”, and at Rhoodeval he bought a dozen copies of the Bloemfontein Post to give away.

At Koopie’s Sidings he saw the remains of the blown-up train. “A charge of dynamite I suppose, placed on rails completely turned engine and tender upside down and twisted saloon carriage. Fortunately it was on level ground, so a deviation was easily made.” No passengers were hurt but the fireman was killed. At Vereeniging Adlam chatted to the fireman of his own train, who had known the dead fireman. “If ever there were heroes it is these drivers and firemen, and no less the armoured train men.”³³

Once Richard Adlam was back at Joubert Park and being paid again, life for the family in Port Elizabeth became easier. In late September 1901 the family got permission to go home, and within 24 hours Grace Adlam had returned the furniture they had hired, packed up the rented house in Donkin Street, and gathered enough food and drink for the family's two-night rail journey to Johannesburg.

Now 13 years old, Tom Adlam noticed the blockhouses every few miles guarding the line from "marauding bands of Boers", and the railway fences hung about with empty ration tins intended to rattle if anyone tried to interfere with the fence after dark. "Many dead horses lay unburied near the lineside – too many seemingly for the vultures to deal with – and the terrible stench was often wafted into our compartment..."

They crossed the Vaal River into the Transvaal on a temporary low timber bridge "within sight of the much higher steel girder bridge whose spans, destroyed by dynamite, lay sloping on the river bed".

What of the Cogeens? Who knows when they returned from Natal, but return they did, back to Jeppestown. William went back to work on the mines, where his chest began to be a cause for concern, Katie met and then married the handsome Thomas Hope, Ethel quit school and began training as a milliner under a French mademoiselle at Greenacres, and Martha set about making a proper home again.

Part Four – Jeppestown and Malvern today

It's a Saturday morning in Doran Street, Jeppe, and we've driven ourselves into a dead-end. People are sprawled on front stoeps, lounging on corners, eyeing us. We feel very white. As my friend Peter Denholm starts to do a three-point turn, three lean young guys slouch towards us. They don't seem threatening exactly, but they're not smiling. Peter waggles the gear stick, puts us into reverse, and stalls. The guys keep coming, Peter restarts the engine, slams into first gear, and we lurch off. I look over my shoulder – the guys have stopped. I suspect they're amused at these flustered whiteys, but we're not waiting to find out.

On Google Earth Doran Street runs parallel with busy Jules Street, but in real life - and probably in a bid to stop people using it as a rat-run – it has bollards across it every block or so, so that if you want to drive along its length you have to keep taking side roads up to Jules Street and then back down again. Once a tidy suburb of small semis, it's gone down in the world. Walls are peeling, windows are broken, torn curtains hang limply, and rusted

skedonks are parked in some of the little front yards. Many of the original stoeps have been glassed in to make the most of the room available.

We've come to find number 40, the last address of William and Martha in South Africa, but it doesn't seem to be here. After several forays from Jules Street down to Doran Street and up again, we realise that the numbers in Doran Street start at 60, and the area where the road should begin is enclosed by a high wall. Peter follows the wall around until we come to a set of iron gates with the name Villa Alto Douro. Later an estate agent tells me it's a residential estate comprising several blocks of flats and a branch of the New Apostolic Church. Number 40 Doran Street no longer exists.

Back up in the glare of Jules Street we drive east towards Malvern, where we lived when I was a toddler, shortly after we came to South Africa from England.

I remember Jules Street when trams ran down its centre, and we'd go into town on the upper deck, my mother smart in high heels and town clothes. Now it's a wide street, lined by low-rise business and car dealerships, crawling with taxis, bakkies and cars. All the shop windows are heavily barred, and vendors sit on the pavements selling vetkoek and vegetables and sunglasses and cellphone chargers. The street runs just north of where the richest gold reef in the world broke the surface, and to the south are the railway lines, curving along the line of the Main Reef Road. And then come the mining suburbs of Benrose, Denver, home to the Cogeens in the early years, and Cleveland, all now separated from the yellow mine dumps by a multi-lane highway.

About a mile down Jules Street on the right we pass a facebrick block of flats, built by my uncle James, called Lamorna Court, a name that would have been familiar to Cornish immigrants as a wildly beautiful and gale-swept cove on the Penwith peninsula. James loved it, but to today's passersby it's just a name.

A little further on the left is Naiad Street, which had the Star Bioscope on one corner, a barn of a place with an upstairs gallery. For a sixpence on a Saturday you'd get in to watch a serial, a newsreel, a cartoon and a main feature, and the opportunity to swop comics.

Across Naiad Street was a grocery shop run by a family of Lithuanian Jews. In those days before supermarkets and widespread car ownership, you would stand in front of the wide wooden counter while the shopkeeper fetched your items one by one from the shelves behind him. At Christmas regular customers like us would be given a free tin of biscuits, and at New Year a calendar with a picture and the shop's name at the bottom.

Naiad Street leads up and over the ridge into Kensington and the green space of Rhodes Park. We lived half-way up Naiad Street in the sunny half of a pair of semis on the

corner of St Frusquin Street. My grandfather Jimmy Bawden owned both houses, and he and Ethel lived in the more gloomy house next door.

It might have been a working class area, but the streets were leafy and the pavements wide, with a tarred strip for walking and riding tricycles. Diamond-mesh fences separated the houses from the road, and the gardens were bright with roses and cherry pie.

Our house was of course a mirror of my granny Ethel's. There was a back stoep, with the bathroom opening off it, and you could sit in the bath and tap on the dividing wall, and granny might just tap back. There was a sunny back yard, complete with coal shed, a honeysuckle hedge and a tree, and a lavvy up at the top of the garden with an overhead cistern and a swinging chain. Although they were small, two-bedroomed houses, both had maids' rooms, and ours was occupied, first by Sylvia and then by Alice, who would rock my baby brother's pram and chant, "Thula, thula wena." On both sides of the back garden wall between the two houses was a ladder, so that my mother and granny Ethel and I could pop over. I don't ever remember my dad or Grandpa using the ladders – if they needed to visit they went round formally, via the front door.

We had an electric stove, and another stove fuelled by coal called a combustion stove which heated hot water. Next door Granny had a big black coal stove, and no fridge – she had a safe, square wooden frame lined with fine mesh to keep out the flies. She kept her butter cool in an earthenware bowl with a little water and a smooth round river stone in the bottom.

We had a garage opening directly on to Naiad Street, and I could ride my tricycle from the front door in St Frusquin Street to the corner, and then up Naiad Street to the open garage where my father would be making furniture, or carving oak. I still have the carved plane tree leaf he copied from a fallen leaf on the pavement.

One day when I was pedalling up and down the pavement a group of black people came walking down the hill. One woman had a particularly dark face – it was probably a birthmark – and I jeered at her: "Black face, old black face." She reached out and smacked me.

I was shocked. I knew she wasn't allowed to do that. In tears I ran up to the garage where my father was bending over his work bench. "A native girl hit me!" I sobbed. He straightened, looking worried. "Why?" I was not allowed to lie. "Because I called her black face," I said. "Well, she DID have a black face."

He looked at me levelly. "Serves you right, then," he said, and picked up his chisel.

Black people live at both 49 and 49a St Frusquin Street now. Almost all the people you see in Malvern today are black, and many are foreign. The Star bioscope building is still

there, but now it's a secondhand furniture auction house. The grocery shop across the road is shuttered and empty. St Frusquin Street is still leafy, and our houses, despite the palisade fence with spikes on top, look much the same. A dog runs up and down behind the fence.

Peter parks and I walk up Naiad Street to my dad's garage. It's now a spaza shop. A bored young woman sits behind the counter, behind bars reaching to the ceiling. I tell her I used to live here, and could I see inside? She says she'll ask. She disappears, comes back, unlocks a security gate, and waves me in.

The dividing wall between the two back yards is gone, creating a single decent space, and there is a deep red bougainvillea against a fresh white wall, but no sign of my grandmother's beloved purple Love Lies Bleeding. The houses are immaculate.

A large man of around 50 introduces himself as Simba and says he owns both houses. Several young people are about, one washing clothes in a bowl, one leaning against the kitchen doorway, two at Simba's side. They're all his family, he says, and they're from Zimbabwe. He bought the houses in 2005 and did them up. He leads me to what had been Granny's back door, and points out the new bathroom, crisply tiled, with a planter of greenery running around the room. The sitting room is the same as it was, the redbrick fireplace in the corner, a settee where Granny's had been, but now with a big flatscreen TV mounted on the opposite wall.

He says when he bought the houses, 35 families – it seems hard to credit – were living in them, 20 families in our old house and 15 in Granny's. "This room," he says, gesturing around the sitting room, "had three families. They put up two sheets so that the room was divided into three, and they lived here."

Now it's just Simba's extended family divided between the two houses – a bit like our family 55 years ago.

When I was a child Malvern was home to many Portuguese and Jewish families; it had always attracted immigrants, people like us trying to make better lives. Now it is home, according to Simba, to hundreds of Zimbabweans.

My grandfather, Jimmy Bawden, died in the house in St Frusquin Street. He and Ethel would not have liked the thought of "natives" living in their home. But as a builder and joiner, Jimmy couldn't have faulted their upkeep. Malvern has moved on, like Johannesburg, and this part of our family history seems to be in caring hands.

CHAPTER EIGHT - MPONENG

Part One – Very exci-scared

My hands and arms are slick with sweat, and I can feel it trickling down my back. I am uncomfortably aware of the clothes I'm wearing sticking to me – the teeshirt, cycling shorts, heavy white overall and thumping great gumboots. My protective goggles keep slipping down my nose, and my scalp itches under my hardhat.

I'm standing at the bottom of a very deep hole, at the bottom of the deepest mine in the world, and later I get a certificate to prove it. "Mponeng Mine," it states. "This is to certify that Vivien Horler visited the Deepest Mine in the World on Tuesday 10 July 2012, which is situated at 3 870 metres below datum, 3595 metres below surface and 1949 metres below sea level."

I've been below sea level before, when I used to scuba dive. The deepest I ever went was about 18m, which seemed respectable. But 1 949 metres is virtually 2km below sea level, and we started off, not at sea level itself, but in Carletonville on the West Rand, which is itself 1 646 metres above sea level. We are, in fact, as near as dammit 4km underground.

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A few weeks after our visit to Gold Reef City, I get responses from Goldfields and AngloGold Ashanti to my request to go down a working mine. Goldfields says no, AngloGold says yes. It turns out a CNN team have been angling to get down a mine for the past six months; the company has agreed, and I can join them if I wish.

My contact, Chris Nthite of the marketing division, says the company will provide "full PPE" – personal protective equipment – of overalls, gumboots, hard hat, light, ear plugs, self-rescuer (a portable emergency air supply) and goggles. We're to bring a teeshirt and cycle shorts to wear under the overalls, and a clean set of underwear. A clean set of underwear? Is it that scary, I chortle in an email back to Chris. "Heh heh," he chortles back. "It's humid underground."

He also tells me we're going to a mine in Carletonville. I turn to Google and find that AngloGold Ashanti has three mines there, formerly known as the Western Deep Levels or the West Deeps, and part of the West Wits gold field. Only one, Tau Tona, has a Wikipedia site, and it makes for unsettling reading:

The mine today has some 800km of tunnels and employs some 5 600 miners. The mine is a dangerous place to work and an average of five miners die in accidents each year. The mine is so deep that temperatures can rise to life-threatening levels....

The journey to the rock face can take one hour from surface level. The lift cage that transports the workers from the surface to the bottom travels at 16m per second.

All of which gives my blithe excitement something of a knock. When a colleague asks how I feel about going down the mine, I hear myself say: “I’m very exci-scared.”

As it turns out, we’re not going down Tau Tona at all but Mponeng. I discover that AngloGold Ashanti’s former Australian CEO, Mark Cutifani (who has since moved on to Anglo American), made safety a priority since his appointment in 2007, and the accident rate has fallen. And once we’re all kitted up and passing through the room where the miner’s lights hang on charge, we all walk past a big notice reading: “It is OK to stop a working place if it is not safe.”

Sean, a geologist friend who worked for Anglo American, is amused that I’m going down a mine. But he pooh-poohs my fears – “They won’t take a group of visitors anywhere that could be dangerous,” he says. Then he adds: “You’ll find the cage is a triple decker. Try to get on the top deck.” I assume this is because should the cage plunge to the bottom it will be the lower decks that are flattened. This happened at the Vaal Reefs gold mine in Orkney in May 1995. The two-tier cage was full of miners at the end of their shift when a locomotive moving through the wrong tunnel burst through a safety barrier and landed on the roof of the cage, snapping the cable. The cage plunged about 500 metres to the bottom of mine, killing 105 miners. Dick Fisher, regional general manager of the mining company, told journalists that the impact had left the cage’s bottom deck only 18 inches high. Medic Garth Ellis, who was in the first rescue squad to descend to the accident scene, told reporters: “It’s a heap of mangled steel. It’s a gruesome sight.”

But no, a possible cage plunge is not the reason why one should avoid the lower decks, explains Sean. It’s been known for grumpy miners, aware there are bosses or VIPs in the cage below them, to pee on their heads.

The day before the mine trip I fly up to Joburg. A night’s stay is necessary as we have to present ourselves at the AngloGold Ashanti head offices in Johannesburg’s Newtown at 5am. Sean has explained that the order of descent is strictly controlled; miners go down with their shiftmates and if they miss the cage they miss the day’s work. Our descent will also be carefully timed, so a late arrival will mean the whole event is off.

Part Two – Going down

It's cold and dark when I set off from my friend Miranda's house in Melville, and I'm nervous that I'll lose my way in Joburg's unfamiliar streets. But it's too early for much traffic, and I take the correct turn-off, drive over the ridge, cross the brightly lit Nelson Mandela Bridge, and arrive at the mining company's head office in good time. Chris Nthite and his boss Alan Fine, both from the marketing division, meet me and several of the other visitors in the underground car park.

The visitors' party is a relatively big one: two guys from the International Labour Organisation, four from the Australian High Commission including the High Commissioner, three CNN people, a Canadian writer who's working on a book about gold, and me. I thought it was quite a big deal that I'd come all the way from Cape Town for this trip, but it turns out the writer, Matthew Hart, has flown in specially from his home in Manhattan. His book is pretty well done, he tells me during the hour-long drive to Carletonville, but he needs to start it off with something dramatic, and he hopes this trip will provide the material. Not too dramatic, I hope.

We arrive at the mine just as the sky is turning a starry luminous blue, and we're taken to the thatch-roofed clubhouse for a safety briefing and breakfast. As well as the food, we're fed a lot of information.

Mponeng, we're told, is the flagship mine of AngloGold Ashanti, and development began in 1981. It produces 1 300 kilograms of gold a month from 140 000 tons of ore. That works out to around 9g of gold per ton of ore, a good rate, we're told, "up there with the best". I look down at Martha Coge's wedding ring which came from Leadville and which, a century or so after she was married, became my wedding ring too. It's a coppery red gold, and weighs about 3.5g. Three of those rings out of a ton of rock – it seems an extraordinary effort.

It costs them \$586 to produce an ounce of gold, excluding capital costs,¹ and they earn, if the gold price is fairly good, around \$1 570 a fine ounce.² In development, it costs about R1million to sink one vertical metre.

Mponeng's workforce of around 5 500 people – men and women – are extracting ore at an average of 2 800m below surface from the Ventersdorp Contact Reef. Based on this reef alone the mine is expected to last until 2029. However, there is a R7billion feasibility project underway to intercept a reef 900m lower down called the Carbon Leader Reef and, if viable,

this will extend the life of the mine to 2050. They expect to intercept the reef in November 2013.

Down at 3 700m below the surface it's very hot and humid, and the rock can be 55deg C – too hot to touch. So tons of ice slurry and water are pumped down to cool the air and rock. The mine heats up by around 9 C for every 1000 metres of depth. By law no mine can be hotter than 32.5deg C, but at Mponeng the company-set target is 28.5 deg. Not so bad, I think, until we're told: "Of course the humidity makes it feel a great deal hotter." Controlling the temperature is not simply intended to make things more comfortable for the miners: there's a direct correlation between increasing temperature and the accident rate, and a matching decrease in productivity.

They tell us about the risks: the number one is seismicity, or earth tremors. At Mponeng they have up to "600 events" a month, mostly after blasting. That's around 20 a day. I shudder. I watched the MegaStructures TV programme that featured Tau Tona, and laughed when a panicking TV presenter fled down the drive as a tremor shook the mine. Now it doesn't seem so funny.

After earth tremors, the dangers are falling rock, flammable gas, flooding, and underground fires. But in 2011, the country's mining sector recorded no "disasters". That sounds encouraging, until you learn the definition of a disaster: a single incident in which four or more people die.

Sitting in the clubhouse eating a buffet breakfast, these dangers could seem academic. Deep-level gold mining is of course a high-risk business, but AngloGold is not going to risk having a bunch of ILO representatives, diplomats and journalists killed. However, while major efforts are being made to reduce accidents on mines, a cursory check through Google reveals the death of a miner at Mponeng in January 2012 in a "falling ground accident", probably brought on by an earth tremor after drilling. In March 2012 a team leader died at Tau Tona in a mud rush, something that occurs when a chute feeding ore into a hopper gets blocked with thousands of tons of rocks and water. Should the blockage be injudiciously cleared, the ore can pour out, burying anyone standing in the wrong place.

And I'm aware of the fire that killed five miners at Gold Fields' Kloof and Driefontein Complex, known as the KDC mine, in Carletonville – less than a fortnight before our trip.

The fire broke out just after midnight at level 39, where workers were mudloading – clearing debris from backfilling. Health and safety officer Zonwabele Ntsime was working on the 38th level when he was alerted to a situation one level down. According to a report in the

Cape Times, there was no compressed air on the 39th level. Ntsime rushed down to the level below and turned on water pipes to help combat the smoke. But nothing came out. He then found himself battling to breathe.

I put on a mask and the rescue pack. I saw one man lying face down in mud and I tried to turn him around ... but I started getting dizzy. My legs got heavy and I couldn't walk. I crawled to a safer area, held on to some mesh. I then crawled to a place with water and put my head under the tap. I lay there in a dizzy state hoping someone would come help me. I don't know how I survived, but eventually rescue teams came and they put me on oxygen.

Ntsime was taken to the mine hospital and discharged a few hours later. But five miners, working overtime on a Saturday night, were dead. Another 14 were admitted to hospital.³

I drag my attention back to the information we're being given about the shift system. There are three shifts at Mponeng, with 3 000 workers going down in the morning shift. They take between two and two and a half hours to get down to their working levels. The morning shift does the bulk of the day's work: support work, drilling and blasting, and clearing broken rock. The miners work an eight-hour shift, with about five hours at the face. The morning shift starts at 4.30am and finishes at noon, with a 1pm blast. The afternoon shift of around 600 miners goes down about noon – to a different section of the mine – and the night shift of about 1 000 workers goes down at 9pm. They give dust three hours to clear. Blasting is done around three times in 24 hours. No rock is broken on a Sunday, but maintenance takes place seven days a week.

The stopes or working faces, off the horizontal drives, are usually steeply angled to follow the reef. To avoid taking out more waste rock than is necessary, the average stope height is just 1.4m high, of which 40cms is gold-bearing. This means working at a crouch for hours at a time.

Now we get the safety talk. Stay together, watch where you're putting your feet. If you feel uncomfortable, tell your guide. We're shown a video on how to use the "self-rescuer", the rescue pack that probably saved Zonwabele Ntsime's life at the KDC mine. It's a square box that clips to the back of your belt. "Check that the self-rescuer is not dented and the blue spot – here – is blue and not green. Green could indicate that damp has got in." In an emergency, you pull the device around to the front of your belt, pull off the lid, pull up the

red handle, pull up the yellow bag. Blow three times into the bag, fit the mouthpiece to your mouth, and clip on the nose-peg so you don't inhale toxic fumes. Do not panic.

Do not panic? How many times do you blow into the bag again? Oh God. For the likes of me, the video helpfully goes through the whole process again. I hope fervently I won't have to use the device.

"Right, guys," says our guide, Chris Langenhoven, Mine Manager – Projects, the man in charge of the R7billion exploration phase. "We need to get moving now."

We sign for numbered cards and use them to swipe our way through a turnstile to get into the change house; it's the modern equivalent of the peg board, and will alert management at the end of the shift to a card that has gone in and not come out. Minutes later, shuffling out in our wellies, off-white overalls and fetching lavender hardhats, the safety talk is much on my mind.

"Are you nervous?" I ask one of the women from the Australian High Commission.

"No." She looks at me inquiringly. "Should I be? Are you?"

"Um, a bit," I say with a careless giggle. She looks unconcerned, but maybe she hasn't been reading the newspapers.

The men rejoin us and we're led off to collect our lights and self-rescuers. A mine official fits my light, showing me how to turn it on and off, and clips the battery and self-rescuer to my belt. What with these and my camera, pen, and the nifty wet-strength notebooks the mine has issued to me and Matthew, the New York writer, I feel hung about with stuff. But one of the Australians goes one better – she has a pretty Chinese fan, a delicate item in sharp contrast to the industrial equipment we're carrying. To someone's raised brows she replies: "When we're down at the bottom in the heat I'll be able to sell this for a fortune."

Now we walk down a long switch-back corridor, presumably designed to accommodate a queue of miners, to the cage where the banksman – the man at the top of the shaft – sees us in. It really is a cage, with a heavy duty wire mesh. We seem to be on the bottom tier. I look up, but can't tell how many vengeful miners might be occupying the tier above. Most of us switch off our headlights to avoid blinding each other in the confined space, but this means it's very dark. A roller door goes down with a clang, and we start to move.

We're going down at the rate of 16 metres a second, but the sensation is more of being aboard a rumbling underground train than a plunge. Except that our ears start to pop, and one of the mine officials in the cage with us tells us to swallow, then yawn, or do the

trick scuba divers do – pinch your nostrils and blow. It works for a minute or so, and then you have to do it again.

Just under five minutes later the cage slows and stops. The door rolls up, and we stumble out into a large, dimly lit cavern. The walls are gunnited and slung about with pipes and cables. A row of miners sit on a bench, and I take their picture. They smile. The ground underfoot is uneven and crisscrossed with rails, and there are puddles of dirty water everywhere. The onsetter – the equivalent of the banksman at the bottom of the shaft – motions us to move away from the cage. I look up the shaft, and see we were on the lowest tier after all.

Langenhoven gathers us all together, and counts us. We've just come down the main shaft, he tells us, to the 83rd level. That's 8 300 feet deep – in the old pre-metric days levels were named after their depth in feet. "So how deep's that in metres?" I ask. "About 2500m," he says. I swiftly translate: 2.5km, my God. Well below sea level – deeper than Cape Town.

"And what's above us?" "Nothing," he says. "Just a couple of kilometres of mined-out rock."

He's going to lead us to the subshaft that will take us down to the 120th level. "Follow me. Watch your feet." We trudge off, slopping through the water. We're in a dimly lit industrial space, with pipes the thickness of a man's torso running along the walls, one carrying ice slurry for cooling, and the other warm water going back to the surface. There are also pipes carrying compressed air and electric cabling. Here and there are stationary trains, with all manner of stuff in the hoppers, much of it looking like industrial junk. The tunnel widens out, and on one side is a prefabricated office, complete with a window looking out at us. Inside a woman sits at a desk, as women do in offices everywhere, except that she's bending over a computer 2.5km below ground level. There's something surreal about it – why would you have a window? We pass a workshop where a locomotive is being repaired.

At the subshaft, we pile into another cage. This time our group is not alone in the cage, and it becomes uncomfortably full. More people squeeze in, prompting everyone to shift up so that we're all pressed against each other, like being on a very crowded London Tube with the lights off. "Please stop pushing," yells one of our number at the back of the cage. It's very dark. There are some sort of raised rails on the floor, so that although my torso has been pushed back, I can't move my feet. But I don't fall over – the cage is too full for that. Eventually I extricate one gumbooted foot and lift it over the unseen barrier, so that at least I'm bearing my own weight. We hear the welcome rattle of the door, and we begin

going down. “Is the cage full?” I yell to Langenhoven over the rumbling. “Not completely,” he says.

Again our ears pop. When the door rattles up again we’re at the 120th level – about 3 600 metres down. The air here is distinctly hotter, and a warm breeze blows through the haulage. Langenhoven leads us to a brightly lit area fitted with benches where the shifts have their morning briefing before dispersing to their levels. At this point we discover that we’re not to be shown gold mining as such – we’re to be taken to the lowest point at Mponeng, which is where development is taking place to intercept the much deeper reef, the Carbon Leader.

There is a trace of disappointment – we won’t see any men crouching in stopes, won’t hear the shattering rattle of the rock drill or rumble of the rock as it falls down the box holes. But we are going to the deepest point in the deepest mine in the world – not a bad trade. We set off, walking carefully over the uneven ground. At a junction of tunnels I stop, astonished. In front of us is a ghost of miners past, an elderly white man in miner’s overalls, white beard to his chest, standing, head bowed, hands folded over a walking stick. “I think I’ve just seen my great-grandfather,” I mutter to Matthew.

In an alleyway a shiny white cab hangs from a rail at the roof of the haulage, and Langenhoven points with evident pride to a mono-rail system for carting goods. Behind the cab hangs a line of retractable winches, and the driver demonstrates how he can control each one individually. I ask to take his photograph, and Langenhoven quips: “Maag in, bors uit!” The driver regards me sourly.

Ahead of us the haulage is blocked by an enormous set of double doors. A worker opens a small pedestrian door and we step through in to a gloomy cavern where we’re hit by a blast of scorching air – the real temperature of our surroundings. About 100 metres further on is another set of double doors, and we step through into a much cooler space. Waiting are two vehicles, a Land Rover and a Toyota bakkie and we’re told to climb aboard. The Ancient Miner turns out to be the driver of the Land Rover, and he sets off down a dark rocky tunnel, with us behind in the Toyota. There is no lighting here, only the headlights of the two vehicles, and our own hardhat lights. Dancing off the jagged walls are red laser spots, with which each of our lights are equipped, a safety measure designed to come on when machinery is operating.

At one point we round a corner from one tunnel into another, the curve so tight our driver has to do a three-point turn. We’re heading downhill and travelling very slowly over rough ground. It goes on for a long time. Staring into the solid dark I remember a display of

antique candle mounts and lamps in the National Mining Museum in Leadville, with the legend: “The depths of mountains are a dangerous place for men, with no sunlight, stars or moon to light their way. However, the lure of gold, silver and other valuable ores is strong and miners are willing to risk these extreme conditions for the promise of wealth. So what do these men need to enter a mine? Other than mining tools ... a source of light is of the utmost importance.” On the surface this might seem self-evident; down here you realise that a candle flame or the light from a head torch is so much more than illumination; it is a warm comfort, a promise that there is a shining world up there that, God willing, you will see again.

Light blooms ahead, we hear a roaring, and the tunnel opens out to the right where a large yellow digger is probing a huge hole in the tunnel floor. This will be an ore pass when the development is complete. We trundle on into the blackness and then turn into another tunnel, an upside down sign hanging from the roof proclaiming: “123 level”.

The darkness hangs over us like a shroud, and the air is hot and thick. Sweat is running down my face and back, and the Australian woman opposite me is flapping her fan in front of her damp, rosy face. Suddenly we stop. To our left is a low brick wall, just a couple of courses high. A roughly hand-made sign, painted in what looks like blood, but surely can’t be, reads:

Be
Care
Full

Beyond it another tunnel stretches into darkness. We slide out of the bakkie, scramble over the little wall, and head off down the incline. The walls and roof are lined with wire mesh, and the ever-present pipes of ice slurry and warm water run alongside. I put my bare hand on the rock, now nearly 4km below the surface, and the stony surface is warm. Langenhoven notices and says: “Without the aircon you couldn’t touch it.”

We’re met by two men, one black and one white, who are in charge of this section. I walk ahead with one of them, care-fully, sloshing through water. We’ve gone on quite a way ahead, and I stop to look back at our group; the light from my head torch picks up the reflective strips on their overalls and the scattered lights on their hard hats, like stars on a moonless night.

The others catch up and we go on. Now we can hear a steady thump ahead, and then we come upon a man handling a pump. I manage to drop my little red wet-strength notebook into the water at my feet and it comes up covered in a slick of oil. Langenhoven takes it from me and wipes it off on his overalls. The paper lives up to its hype though – there are a couple of oil marks, but my notes are fine.

Just ahead of the pump man is another huge yellow digger occupying most of the space in the tunnel. We sidle alongside it to see its steel probe picking delicately at the blind rock face in front of it. That's it, the end of the tunnel. The deepest place in the world.

We don't stay long – we're in the way and these men have a long way to dig. They expect it to be another 16 months before they intercept the Carbon Leader Reef, 16 more months of digging and blasting down through virgin rock, ever closer to the centre of the earth. I shudder. Thank God this was never my lot.

We turn and plod back up the incline, over the little brick wall and back to the bakkie. I'm exhausted – the humidity, the heat, the strangeness, the dark, the early start. I don't have the strength to climb up on to the tail gate – I put my knee up and then crawl across the floor to my seat. Later, back on the surface my white overall is filthy.

We're passed bottles of cold water and we slurp them greedily. On the drive back up the slope I glance at my hands: as always I'm wearing three gold rings and four gold bangles. I like gold, the soft warmth of it. But there's nothing soft and warm about this alien environment where the gold is ripped and blasted from the earth. Can it possibly be worth it? All this effort to decorate women's fingers and wrists? I know it's also used in electronics, but even so. Aloud I say: "What a waste, all this trouble to get the gold. What for?" The High Commissioner looks at me pityingly and says: "It does underpin the world's economies."

Yes, I think. They dig it out, refine it, and shove it back into underground vaults.

We drive back up through the airlock and on to 120th level, passing a couple of miners trudging up the slope. Langenhoven tells us we drove 1.6km in our trusty Toyota, the distance getting further all the time. Eventually there will be a chairlift carrying workers down to the face, but for now they walk.

We leave the bakkies and shuffle back to the cage to begin our long journey back to the light.

Part Three – How low can they go?

When Paul Kruger proclaimed the Johannesburg gold fields in 1886 no one imagined they would still be powering the South African economy more than a century later. And no one dreamed there was a two-century future for the Witwatersrand's gold; yet there are goldmines in the West Wits basin – notably Gold Fields' South Deep - that expect still to be operating up to 2080. There is no more conventional mining at South Deep – it is a fully mechanised mine.

To use a marvellous mining metaphor, everyone from the Transvaal Republic government to the early miners assumed the Witwatersrand goldfields would be a flash in the pan, as they had been at Barberton and Pilgrims Rest. Yet today there is still plenty of gold under the Witwatersrand, or as AngloGold Ashanti's Robbie Lazare told Sunday Times journalist Jim Jones in October 2011, South Africa is still home to 40 percent of the world's total gold resource, and there is more still underground than has been produced since gold mining began on the Witwatersrand.

But because our mines are becoming uneconomic, South Africa's share of world production has dropped sharply. In 1970 we produced 67.7 percent of global output, today it is closer to 7 percent, or 197 tons in 2011. Compare that with 675 tons as recently as 1980.⁴

The world drop in the bullion price doesn't help. The day Thomas and I visited Gold Reef City in June 2012, the gold price was \$1 569.20 an ounce; a year later on June 26, 2013, it was \$1 223.54 an ounce. David Davis, an analyst at SBG Securities, told Business Report on June 27 2013: "Anything below \$1 400 an ounce is sort of a red line" for South African gold producers.⁵

There is a limit to the depth at which conventional mines can operate safely and profitably. Heat, the cost of cooling and ventilation, pressure, the time it takes to reach the stope, all cut down on earnings. And there is the matter of the impact of such extreme conditions on people; as they told us at Mponeng, there is a direct correlation between rising temperatures, a rising accident rate, and low productivity.

Were William Cogein to do a spot of time travel and go down Mponeng mine today, he wouldn't find operations all that different from what he knew in the 1890s. The mine is vastly deeper, and there is more mechanisation in terms of locomotives and the use of cages to get men and equipment down and the ore up. Also blasting today is done centrally and automatically to cut down on dust and danger. But the essentials are the same: go down the mine, drill blast holes, blast, lash up the broken rock, tram it to the shaft, and hoist it to the surface for milling.

Limits to profitability include the fact that significant amounts of gold ore are locked up in pillars of rock that hold up the roof or hanging wall. Also, South African mines break rock only 274 days a year, and for only 10 hours a day, because of long travelling times to the rock face and blasting.

"The way that we're mining now is not sustainable into the future," Lazare told Mining Weekly Online in January 2011.

AngloGold Ashanti's plan is revolutionary: go down even deeper – up to 5km; avoid blasting altogether, create people-less stopes which do not need to be cooled, and mine 24 hours a day, 365 days a year.

In the October 2011 Sunday Times interview with Jim Jones, Lazare said they had brought together international manufacturers of mining equipment (including names like General Electric, 3M and Du Pont), chemical and power plants, IT companies and university mining schools, and tasked them with finding solutions that would lead to safer working conditions, allow low-grade reefs to be mined profitably at depth, and reduce the amount of gold lost in the production process.

The experts came up with a three-stage plan. The first would be to use boring machines to dig underground tunnels, 4 metres in diameter for main haulages, and 2 metres for reef drives. Boring machines could also extract the ore. The cutting head's diameter could be adjusted to match the reef's width so that no waste rock would be hauled out. Only three miners would be needed to operate the stope machine rather than the 20 or so in a team today. And without the fumes and dust created by blasting, work could be carried out 24 hours a day. However, you would still have miners at the rock face and so you would still have to ventilate and cool.

The second phase would be to use automated boring machines that did not need people at all. These machines would have to be withdrawn to safe areas periodically for repairs or maintenance. Phase three would involve underground leaching of gold-bearing reef so that ore did not have to be hauled to the surface at all – just leach liquid.

This new technology is part of the R7billion development at Mponeng that we saw.

Ever since 1886 people have been predicting the end of gold mining in South Africa, but Lazare believes the industry is doomed only if it continues using methods William Cogein would have been familiar with.

It won't be easy – there will inevitably be job losses and miners are unlikely to go without a struggle. Events at Rustenburg's platinum mines and elsewhere have shown how desperately miners will fight for their jobs.

Gold Fields has spent R33million on mechanising its flagship South Deep mine near Westonaria, and at the time of writing has gone head to head with the National Union of Mineworkers over a shift system designed to accommodate its new way of working. CEO Nick Holland told the Sunday Times on August 5, 2012: "We have to make those machines work."

Part Four – Legacy

It is unlikely that, more than a century ago, William and his fellow miners in Laxey, Leadville, Cornwall and Johannesburg gave a thought to the legacy they were leaving, but it is one that environmentalists around the world have been grappling with for several decades. In Johannesburg the problem of acid mine drainage, or what one journalist aptly dubbed “acid mine reflux”, is threatening buildings there today, notably the Standard Bank complex in Simmonds Street, which contains the old Ferreira Deep stope, and Gold Reef City, among others.

In Laxey, mining goes back to the 13th century, peaked in the mid-1800s and ended only in the 1920s. While the Laxey River runs clean and clear today, a study done in the 1980s and another in 2004 found there were still elevated concentrations of lead, zinc and copper in the estuarine sediments.⁶

In Leadville as recently as the mid-1980s miles of the Arkansas River valley and its meadows were poisonous to fish, birds and cattle, thanks to the work of miners a century before. The town’s very soil, not to mention the mine dumps children played on, were contaminated, and at one point there was talk of removing and replacing all the town’s topsoil. The US Environmental Protection Agency became involved in a stand-off with the townspeople who wanted to preserve their town. And then there was nearby Gilman, evacuated and abandoned in the 1980s because ancient mining pollution was threatening the water supply.

Cornwall too has had pollution problems thanks to centuries of tin mining and the existence thousands of abandoned workings. Tin is apparently not a problem metal in waters draining tin mines because of the stability of the oxide cassiterite, but there are plenty of other contaminants in this water, including iron, sulphates, manganese, zinc, cadmium, lead and arsenic. The single worst case of mine water pollution in the UK took place near Redruth in January 1992, after the abandoned workings of Wheal Jane flooded. About 50 000 cubic metres of polluted water and sludge poured from an old adit, creating an orange plume of contaminated water that fed down through the Fal Estuary into the English Channel.

Ironically the flood caused little biological damage, according to the author of a paper on the disaster. The River Carnon, the first river hit by the plume, “was already so badly affected by discharges from other mines upstream that there were no fish and precious few benthic [bottom] invertebrates present...” But the outflow did kill off “a few swans in Restronguet Creek” through heavy metal poisoning.⁷

Johannesburg newspapers regularly report on the increasingly threatening problem of acid mine drainage in the Witwatersrand Basin. It occurs naturally when pyrite, or fools gold (iron disulphide), comes into contact with oxygenated water. In nature it happens so slowly that the acid is neutralised; but mining results in broken-up rock, increasing its surface area and also the rate of acid production. This toxic acidic water then finds its way into the ground water and into rivers and streams, affecting fish and wildlife.⁸

In her book on the effects of mining on Leadville today, Gillian Klucas writes: “The scope of the waste left behind in Leadville and elsewhere is astonishing. This subject is larger than Leadville, and larger even than the dozens of other western mining towns grappling with similar issues. But Leadville is illustrative of the challenges we, as a nation, must face in deciding what to clean up, who pays for it, and how much risk to our health we are willing to accept.”⁹

South Africa faces the same challenges.

AFTERWORD

Although both her parents were born in the United Kingdom and she herself had been born in the United States, Ethel Cogeon was, essentially, South African, and like me was probably brought up on stories of “home”, a green and gentle Cornwall, or a green and gentle Isle of Man, so much more alluring than bright, brash, dusty Johannesburg.

By the time William died in October 1911, Ethel, 25, had already met Jimmy Bawden, a Cornishman from the same area her own mother came from. He must have seemed well met; a young man with the same familiar accent as her mother’s, capable, nice-looking with green eyes and a firm chin, and a good job with the building firm Bawden Brothers. His colleagues were his brother-in-law, Ernie Haly, also from Cornwall, and his older brother William, who was in later years to become an MP in General Jan Smuts’s government, the MP for Langlaagte, where the Witwatersrand gold was first found. There was an older connection with the Bawdens which must have been a delight to uncover: Jimmy’s sister Naomi had taught both Katie and Ethel in Cornwall when they had first started school, in that relatively short period between Leadville and Johannesburg. Naomi was also Ernie Haly’s wife.

Ethel, beautiful, dreamy, a lover of romances, and a milliner with Greenacres department store, would have grieved at the death of her gentle father, and welcomed Jimmy’s comfort. Within six weeks of William’s death, Ethel was pregnant. Poor Martha, having to deal with new widowhood, and also this. Her relationship with Jimmy never recovered.

Years before, during a trip to the United States, William Bawden had impregnated a girl and then fled back to Cornwall. But by 1911 Bawden Brothers had established a respectable reputation in Johannesburg, and abandoning the girl and going home to Cornwall wasn’t an option for Jimmy. He married Ethel and their first child, James William Bawden, was born on August 3, 1912. It was a difficult birth which affected Ethel’s health for the rest of her life, and this may have been the beginning of the schism in Jimmy and Ethel’s relationship.

In 1915, shortly after the birth of their second son, Clarence, Ethel’s favourite child, Jimmy announced they were going back to England. World War 1 was already raging, and it is not clear what prompted Jimmy – he certainly did not intend to join up and fight for his country. Perhaps it was simply homesickness, a longing for the craggy green hills and fields of Cornwall. Ethel had little choice, and the arrangements were made. At the last minute

Martha decided she was going too. Maybe she too longed for “home”; maybe she was concerned about Ethel and wanted to be near her – her older daughter Katie was happily married to Thomas Hope with two small daughters and didn’t seem to need her as much as Ethel did. In any case, the family of five travelled by train from Johannesburg to Cape Town, and then sailed for Plymouth aboard the Saxon in April 1915.

On the train occurred one of those apparently trivial events that shapes relationships and is remembered when all those who were present are long dead. Jimmy was what the Cornish call teasy or irritable, and driven by who knows what – short-temper, a surfeit of family closeness in the confines of the train, spite – as the train thundered through the emptiness of the Karoo, he picked up the hatbox containing Martha’s best hat and hurled it out of the window. If Martha had resented him before, she now made her dislike clear. He felt the same way about her.

After a stay with Jimmy’s father in Whitecross, Jimmy moved Ethel and the boys into the third in a row of six granite miners’ cottages at Trencrom. Martha did not live with them until the very end. She either rented or bought a tiny farmworker’s cottage, one half of a pair of semis, at Cockwells, close enough to Trencrom to walk, but not that close.

Jimmy was happy at Trencrom. A country boy who walked, he loved the fact that the Row was surrounded by fields and farms, and that within a few hundred yards rose Trencrom Hill, a gorse and heather-covered hill topped by the remains of an ancient Stone-Age fort. It was an area he would have known well from the time when his father, Cap’n Bawden, had lived in a smart villa with a bay window just down the road.

Trencrom was an entirely different matter for Ethel. She was a town girl, and Trencrom was remote – it is even today, in this age of cars. Neither St Ives nor Penzance were far away, but they were too far to walk. There was no electricity, no bathroom, an outdoor longdrop, a communal pump at the back for all six houses, and a fearsome copper in the back kitchen that had to be lit to do the household washing, all by hand. The people behind the Row kept pigs.

Fortunately for Ethel, groceries were all delivered. Milk and cheese were available from the Eddy’s farm across the road – until Jimmy fell out with Jim Eddy, but that didn’t happen for years – and everyone else delivered: the butcher, the fishmonger, the grocer and the greengrocer. For proper shopping, or to go to the pictures, you caught a train to Penzance or St Ives.

Jimmy worked as a building contractor and joiner, young James started school at Trevarrick School two fields away, and all was fairly set until, around the time Kenneth was

born in 1916, Jimmy was called up. The family lore states that he went before the military tribunal, swore he wanted to serve his country, but needed to go back briefly to Johannesburg to sort out his business interests. Could Willie Bawden or Ernie Haley not have done that for him? But he went – and did not return until March 1919, four months after the war's end.

In the meantime Ethel was left at Trencrom with her three small boys. She must have been devoutly glad of the company of her mother at Cockwells, and perhaps it was a happy time without Jimmy in the house.

The family remained at Trencrom for 23 years, until the eve of World War 2, and while Ethel was never entirely reconciled to it, the five children loved it. Two more children were born, Thelma in 1922 and Thora, my mother, in 1924. Thora talks of a magical childhood, unlimited freedom, easy familiarity with the people who lived in the area, most of whom were delighted when the chatty, curly-haired little girl popped in for a visit. There were horses in the field across the road to ride, Sunday School picnics on Trencrom Hill, a travelling library and school sports; Thora was Trevarrick School's *victrix ludorum* for two years in a row. There were trips to the pictures to see Shirley Temple, and the hope that when the train pulled into St Erth station on the way home, Father would be there in the Wolseley to pick them up. But not if it was raining – they knew the car did not leave the garage in the rain.

There were many visits to Granny Cogeon at Cockwells, and Thora vividly remembers her tiny two-up, two-down granite cottage, with her coffin under her bed, an armchair on either side of the Cornish range downstairs, a back kitchen, and scarlet geraniums on the sunny windowsill. "To this day when I smell geraniums I'm back in that room."

Although increasingly elderly with one deaf ear, Martha lived alone there for many years. She fetched her drinking water in a jug from a chute at the bottom of the lane, and paid the coalman in gold sovereigns that she kept in an embroidered black velvet drawstring bag. Although they were still legal tender with a face value of £1, their gold content alone made them worth more than this, which infuriated the parsimonious Jimmy. "Your mother is mad – those sovereigns are worth £3 at the bank." "Leave her be," Ethel would retort. "That's proper money to her, not paper money. It's the way she wants to do things, and it's her money, not yours."

Next door, in a slightly bigger cottage, lived Mr Chellew, an elderly man who suffered from varicose veins. One night a vein in his leg ruptured. Bleeding profusely, he staggered over to Granny Cogeon's and banged on her door.

“I must have been sleeping on my good ear,” she told Ethel later. “I didn’t hear a thing.”

The next morning she found him on her doorstep, stone dead in a congealing pool of blood.

“He could have saved his own life if he’d just pressed down on his wound with a sovereign,” she said. But perhaps he had only paper money.

The blood, all eight pints of it, was sopped up with sand and scattered over Granny Coge’s vegetable garden behind the cottage. “The next time we visited Thelma and I couldn’t wait to go round the back and see it all,” says Thora.

Many years later Thora and I visited the house at Cockwells. Its granite walls had been painted white and the two cottages beautifully converted into one. Paul Roddy, from the Midlands, and his Scillonian wife Jan, kindly invited us in for tea in a small conservatory built off what had been Granny Coge’s front room. “Now tell us all about our house,” said Jan eagerly. Thora and I looked at each other, and then at the blameless granite step we’d crossed to get into the conservatory. “Well, grandmother had a neighbour...” she began. It was perhaps more than the Roddys had bargained for.

After the boys had left home, an increasingly frail Granny Coge moved into the back bedroom at Trencrom. It was a good-sized room with a view over the fields, and it had its own fireplace. But Jimmy saw no reason why he should provide Martha with coal – perhaps he was still resenting all the money she had wasted on the coalman. “If she wants a fire, she can pay for her coal herself,” he said.

In 1935, at the beginning of her last summer, Martha announced she would not die under Jimmy Bawden’s roof. Like Jimmy, her grandson Kenneth was a builder and joiner, and she paid him to build her a one-roomed cottage in Jimmy’s field across the road from the Row. Her granddaughters would carry her meals across to her. Shortly before her death she said to Ethel: “I’d dearly love to see Cockwells and all those places again. Ask Jimmy if he’ll take me for a little drive.” He refused.

She died in her little cottage on August 16 1935 aged 84. After a full and far-flung life she died just a few miles from her birthplace in Canonstown, and is buried in Ludgvan churchyard. Just a row in front of her is Clarence’s grave – he was killed, aged 22, in a motorcycle accident at Easter 1937. Ethel never got over it.

In due course young James and Kenneth went back to South Africa where they married and had families. Both served during World War II, and although James never went up north, Kenneth fought as a sapper in North Africa and Italy. On September 3, 1939, the

day war was declared, Jimmy, Ethel, Thelma and Thora, then 14, left Trencrom for a house on the bus route in Connor Downs. Thora believes they moved because Ethel had warned Jimmy that his girls would never meet anyone in Trencrom to marry and would be spinsters and a burden on him for the rest of his life.

Before they moved in he singlehandedly moved the new house's entire staircase to a more suitable spot. "We took his abilities for granted," said Thora. "We took mother's side in things. We didn't really appreciate him."

At the start of the war Thelma, pretty, vivacious, and always up for a party, worked at Climax Engineering in Camborne, which had been converted from producing compressors and rockdrills to Bren gun barrels and shells. There were nights when she would come straight from partying to the shell shop, housed in an old damp building. A persistent cough caused concern. She was diagnosed with TB and sent to Tehidy Sanatorium where she spent the next two years in a ward with one whole wall open to the weather, visited every Saturday afternoon without fail by Ethel and Thora. Her dashing fiancé, Leonard Tonkin, who drove a sports car, was not as devoted and the engagement did not survive, but he was probably the love of her life. Today Thelma's granddaughter Louise lives with her own fiancé in a cottage on the Tehidy estate.

Like Thelma, Thora also worked for Climax, in the wages office. There a good-looking young draughtsman and engineer in the Bren gun section caught her eye. She and Frank Horler were married in the Wesleyan Chapel in Redruth on June 1, 1946. It was more than a year after the end of the war in Europe, and also the day bread went on the ration for the first time since 1939.

In June 1951 Jimmy and Ethel decided to go back to South Africa to avoid the British winter. They never returned to England. I was born in Redruth the following January, and shortly before my second birthday Thora and Thelma decided to visit their parents for Christmas 1953 and show off the baby. We sailed for Cape Town aboard the *Sterling Castle*, and once in Johannesburg Thora was smitten. Straight from an austere, post-war England and a wet and cold Cornish winter they found themselves surrounded by family, the Johannesburg weather gorgeous, and no food rationing. "We ate mealies with the butter running down our chins," she recalled.

The politics were, well, odd – it was just a few years after the National Party had come to power and South Africa was not getting a good press abroad. But Thora had grown up knowing how things were done in South Africa – it was just how it was. She wrote to Frank suggesting that we stay, and in May 1954 he joined us. Thelma and her daughter Little

Thora went back to England, but our branch is still here – Thora, her four children and five grandchildren. William and Martha had followed the gold, and here we are, more than a century later.

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As for the American Cogeens, after Harry's death in the mine in Colorado in 1904 they had some very difficult years. Irma and her three girls, Nellie, 18, Lila, 16 and Marion, 11, settled in Michigan. That same year Nellie married Jesse LeRoy Seifried, known as Roy, and two years later Lila married too.

Tragedy loomed for all three of Irma's girls. In 1912 Marion succumbed to an infection of the mastoid bone and died at just 19.

Nellie and Roy Seifried had four children, two daughters, and then 10 years later, Esther and Harry Gene, the boy named after Harry Cogeen. Within weeks of Harry Gene's birth in 1921 Nellie died, aged 35. With two infants to care for, Roy Seifried asked his widowed mother-in-law to move in to help him. That same year Lila also died in childbirth.

Irma remained living with Roy Seifried and the children, and her relationship with Roy was evidently far more cordial than that between Martha Cogeen and Jimmy Bawden. Around 10 years after Nellie's death and despite an age difference of about 18 years, Irma and Roy were married.

In 1940 Esther, Nellie's third daughter, had an epileptic fit while washing nappies in a bath tub, and drowned. She was 20, and left an infant son, Joe Vergilio, another baby for Irma to rear.

Thinking back to the deaths of Henry Knowles, who drowned in the Laxey River, his grandson Harry who died in the mine plunge, all three of Irma's girls who died young, and then poor Esther. David Seifried wrote to me: "I'm not sure how safe it is to be in the Knowles-Cogeen-Seifried line!"

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One of the things that prompted me to begin this journey was the BBC TV programme *Who Do You Think You Are?* Watching how people found forgotten details about their families from various sources including the British censuses, I decided to have a go too. It was easy to find Martha and the girls in Cornwall in 1891, and then I went back, decade by decade, finding long-gone forebears I'd never heard of. There's a satisfaction in it, like solving a puzzle, especially when you're going through the female line and most women change their surnames every generation. When I announced proudly to Thora that I'd found relatives back in the late 1700s, she was unimpressed. "Well, of course we have forebears or

we wouldn't be here," she said crisply. "Yes, Mum, but I know their *names*," I said. She raised her eyebrows – she's never been one to waste her time.

But she had got me thinking. You could go back to, oh, William the Conqueror, perhaps, if you tried hard enough. But what was the point? I thought about the people I'd uncovered, and realised that the only ones I knew anything about were William and Martha – and I knew precious little about them. Yet without their decision to come to South Africa around 1890, we would, assuming we'd been born at all, have lived utterly different lives.

So I started thinking about the Cogeens, and looking at old family photographs. And then I found the picture of William taken in Leadville. Leadville? I Googled it – and was hooked. "Now I want to go to Leadville," I told Sarah in an email. "I'll come with you if you like," she said.

The process has involved different journeys – several literal journeys: to Leadville, the Isle of Man and Cornwall, not to mention Johannesburg and the deepest mine in the world; but also an intellectual journey involving discovery, application, and new interests.

One of them is finding I can sit down long enough to research and write a book – and enjoy it; one of them is all the new people I have met on the way.

Another has been the development of an awareness of mining and a concern for the miners of today who, despite vast technological advances, are still doing the same work in pretty much the same way, in similar conditions that William experienced 100 years ago. My period of writing this book has coincided with a time of serious industrial unrest in the South African mining industry, mainly in the platinum sector but in the gold sector as well, and as I discovered more about the mining life and times of William and Harry Cogeens, I realised that not much had changed: the workers were still working and living under difficult and sometimes appalling conditions; sudden accidents and death remain an ever-present concern; silicosis and TB are still claiming hundreds of lives (and hundreds of breadwinners), and the gulf between miners and management remains as wide as ever.

My research has led to a greater sense of home for me, here in South Africa. Since the Cogeens and Jimmy Bawden came to South Africa in the last years of the 19th century and the first years of the 20th, our family has been going backwards and forwards between England and South Africa. In every generation someone has left one of the countries and settled in the other. Ethel's eldest son, my Uncle James, was never happy in either country, always yearning to be where he wasn't, and some of this lack of belonging has affected me too. Despite being born in Britain of British parents, I'm not very British, yet all my life I've been aware I'm not entirely South African either.

But this work has shown me my place in the scheme of things in this country. Some people I've spoken to seem to think all the British involved in mining in South Africa in the early years were Randlords with mansions on Parktown Ridge, but there were thousands of ordinary working class people too, miners and boilermakers and wheelwrights. Having grown up as an immigrant, I've realised with some pleasure that my roots here go back more than a century, and that my family was part of the process that created the industrial powerhouse this country has become. Cornwall and the Isle of Man will always be a part of my story, but South Africa is home.

And finally there has been the fascination of the search, the discovery of forgotten people, and the growing knowledge of the sort of lives our forebears lived. They were poor but enterprising people, and their decisions, taken all those years ago, impact on our lives today. Their stories – and the stories of all the millions of people in the world and in South Africa, still moving and seeking a better life for themselves and their children – is the stuff of everyday history.

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END NOTES

CHAPTER ONE – SILVER

- ¹ Janice Fox is the Local History Coordinator at Lake County Library in Leadville, Colorado.
- ² Carlyle Channing Davis, *Olden Days of Colorado*, quoted in Leadville/Lake County Heritage Guide, p26
- ³ Blair, *Leadville*, pp6-7
- ⁴ Blair, *Leadville*, p24
- ⁵ Blair, *Leadville*, p50
- ⁶ Blair, *Leadville*, p55
- ⁷ Daily Herald Democrat March 26, 1886
- ⁸ Display, Heritage Museum, Leadville
- ⁹ Holland, *Oscar Wilde*, pp63-64
- ¹⁰ Blair, *Leadville*, p77
- ¹¹ Blair, *Leadville*, p51
- ¹² Klucas, *Leadville*, p19
- ¹³ 1885 *City Directory*, Leadville, Introduction
- ¹⁴ 1887 *City Directory*, Leadville, Introduction
- ¹⁵ Klucas, *Leadville*, p31
- ¹⁶ Klucas, *Leadville*, p32
- ¹⁷ Blair, *Leadville*, p53
- ¹⁸ Leadville Herald Democrat, June 1886
- ¹⁹ Klucas, *Leadville*, p248
- ²⁰ McDougall, *Born to Run*, p58
- ²¹ McDougall, *Born to Run*, p60
- ²² Durango Democrat, January 29, 1904
- ²³ Wray Rattler, February 5, 1904
- ²⁴ Reply of the Western Federation of Miners to the “Red Book” of the Mine Operators’ Association 1904, p2
- ²⁵ Elizabeth Jameson, *All that Glitters*, p228

CHAPTER TWO – LEAD

- ¹ Hendry, *100 Years of Mann*, p20
- ² Manx Sun September 30 1854, quoted by *The Great Laxey Wheel and Mines Trail* souvenir booklet, p8
- ³ *The Great Laxey Wheel* souvenir booklet, pp5-9
- ⁴ *The Great Laxey Wheel* souvenir booklet, p18
- ⁵ Scarffe, *The Great Laxey Mine*
- ⁶ *The Great Laxey Wheel* souvenir booklet, p18
- ⁷ Scarffe, The Great Laxey Railway website www.laxeyminerairway.im, Snaefell Wheel
- ⁸ *The Great Laxey Wheel* souvenir booklet, p16
- ⁹ Much of the detail about mining at Laxey comes from Andrew Scarffe’s *The Great Laxey Mine*
- ¹⁰ *The Great Laxey Wheel* souvenir booklet, p19
- ¹¹ William T Powell, *Pioneer Journals*, p211
- ¹² Scarffe, *The Great Laxey Mine*
- ¹³ *The Great Laxey Wheel* souvenir booklet, p19

CHAPTER THREE – TIN

- ¹ Croust - dinner
- ² Halliday, *A History of Cornwall*, p307
- ³ W Herbert Thomas, *The Flooding of Wheel Owles*. For the full text see <http://west-penwith.org.uk/owles2.htm>
- ⁴ The Cornishman and Cornish Telegraph, October 29, 1919
- ⁵ George Borlase, quoted by FE Halliday, *A History of Cornwall*, pp262-263
- ⁶ Halliday, *A History of Cornwall*, p263
- ⁷ Halliday, *A History of Cornwall*, p263
- ⁸ Halliday, *A History of Cornwall*, p262
- ⁹ Sir Arthur Quiller-Couch in the Cornish Magazine, 1898, quoted by Halliday, *A History of Cornwall*, p305
- ¹⁰ The Cornish Mining World Heritage website report on the Health of Towns Association, returns for 1841.
- ¹¹ Allen Buckley, *The Story of Mining in Cornwall*, pp132-133
- ¹² Halliday, *A History of Cornwall*, pp292-293
- ¹³ Much of the information on ore processing comes from Buckley, *The History of Mining in Cornwall*, p138

¹⁴ Halliday, *A History of Cornwall*, p298

CHAPTER FOUR – GOLD 1

¹ Beavon, *Johannesburg*, p21

² Much of the information on the discovery of gold on the Witwatersrand comes from Leyds, *A History of Johannesburg* and Cartwright, *The Gold Miners*

³ Leyds, *A History of Johannesburg*, pp 3-8

⁴ Cartwright, *The Gold Miners*, pp48-51

⁵ Leyds, *A History of Johannesburg*, pp3-8

⁶ Cartwright, *The Gold Miners*, pp48-51

⁷ Leyds, *A History of Johannesburg*, pp12-13

⁸ Beavon, *Johannesburg*, pp20-23

⁹ Rosenthal, *Gold! Gold! Gold!*, p244

¹⁰ Cartwright, *The Gold Miners*, p105

¹¹ Beavon, *Johannesburg*, p23

¹² Leyds, *A History of Johannesburg*, pp5-6

¹³ Cartwright, *The Gold Miners*, p106

¹⁴ Cartwright, *The Gold Miners*, p106

¹⁵ Beavon, *Johannesburg*, p26

¹⁶ Beavon, *Johannesburg*, pp27-28

¹⁷ Chilvers, *Out of the Crucible*, p65

¹⁸ Chilvers, *Out of the Crucible*, pp66-67

¹⁹ Quoted by Chilvers, *Out of the Crucible*, pp65-66

²⁰ Beavon, *Johannesburg*, pp28-29

²¹ Elaine Katz, *The White Death*, pp33-34

²² Jacobsson, in *Fifty Golden Years of the Rand*, says: "The main Witwatersrand conglomerates lie at four or five different horizons and are known as the Main, Livingstone, Bird, Kimberley and Elsburg series of reefs. The Main Group has three principal bands of conglomerate: the Main Reef, Main Reef Leader and South Reef. Main Reef and Main Reef Leader are closely associated on a portion of the Central Rand, with the Main and South reefs heading into the west, the Main Reef Leader dies out. The Main and South reefs die out towards the east, leaving the Main Reef Leader." Pp104-105

²³ Rosenthal, *Gold! Gold! Gold!* pp202-203

²⁴ Katz, *The White Death*, p38

²⁵ Rosenthal, *Gold! Gold! Gold!* p173

²⁶ The police were known as Zarps from the acronym of their formal name, the Zuid Afrikaanse Republiek Politie.

²⁷ Leyds, *A History of Johannesburg*, p22

²⁸ Rosenthal, *Gold! Gold! Gold!*, p180

²⁹ Chilvers, *Out of the Crucible*, p57

³⁰ Quoted by D Jacobsson, *Fifty Golden Years of the Rand*. This story was confirmed in a letter to The Star on February 28 1905 by the then Chief Rabbi Dr Joseph H Hertz

³¹ The original building was replaced in 1890 with a building said to be the finest and most substantial in Johannesburg. The current club building is the third, built in 1904.

³² Charles du Val, article in the Weekly Irish Times, September 8 1888, quoted by Maryna Fraser in *Johannesburg Pioneer Journals*, pp 6-7

³³ Charles du Val, Weekly Irish Times, September 29 1888, quoted in *Pioneer Journals* pp14-15

³⁴ Charles du Val, Weekly Irish Times, October 13 1888, quoted in *Pioneer Journals*, p25

³⁵ Charles du Val, St Stephen's Review, September 29 1888, quoted in *Pioneer Journals*, pp21-22

³⁶ Charles du Val, Weekly Irish Times, October 13 1888, quoted in *Pioneer Journals* p27

³⁷ The Eastern Star November 1888 and April 1889, quoted by Rosenthal, *Gold! Gold! Gold!* P186

³⁸ Chilvers, *Out of the Crucible*, pp67-68

³⁹ Turner, Letters

CHAPTER FIVE – GOLD 2

¹ Marischal Murray, *Union Castle Chronicle*, quoted by Leyds, *A History of Johannesburg*, p20

² A P Cartwright, *The Gold Miners*, p78

³ Bernard Louw, *The Gibson Brothers of the Red Star Line*

⁴ Henry Tebbutt, *Some Recollections of South Africa 35 years ago*

⁵ Mrs JJC Leyds, quoted by Leyds, *A History of Johannesburg* pp206-209

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- ⁶ Charles du Val, St Stephen's Review, September 29, 1888, quoted in *Pioneer Journals*, pp22-23
- ⁷ William T Powell, Memoirs, in *Pioneer Journals*, pp201-203
- ⁸ Charles du Val, Weekly Irish Times, September 15 1888, quoted in *Pioneer Journals*, p10
- ⁹ Charles du Val, Weekly Irish Times, September 15 1888, quoted in *Pioneer Journals*, p15
- ¹⁰ G A Leyds, *A History of Johannesburg*, p153
- ¹¹ The Pretoria government granted concessions for the provision of water in 1887, gas in 1888 and electricity in 1889.
- ¹² G A Leyds, *A History of Johannesburg*, p29
- ¹³ G A Leyds, *A History of Johannesburg*, p30
- ¹⁴ G A Leyds, *A History of Johannesburg*, p29
- ¹⁵ William T Powell, Memoirs, from *Pioneer Journals*, p214
- ¹⁶ Leyds, *A History of Johannesburg*, p33
- ¹⁷ Katz, *The White Death*, p48
- ¹⁸ Journal of the Chemical, Metallurgical and Mining Society of South Africa, October 1906, p114, quoted by Katz, *The White Death*, p56
- ¹⁹ Journal of the Chemical Metallurgical and Mining Society of South Africa, October 1906, p114, quoted by Katz, *The White Death*, p57
- ²⁰ Final Report of the Mining Regulations Commission, vol 2
- ²¹ Final Report of the Mining Regulations Commission, vol 2
- ²² Final Report of the Mining Regulations Commission vol 2
- ²³ Katz, *The White Death*, p126
- ²⁴ Final Report of the Mining Regulations Commission, vol 2
- ²⁵ Katz, *The White Death*, p135
- ²⁶ Final Report of the Mining Regulations Commission, vol 2, p32
- ²⁷ Final Report of the Mining Regulations Commission, vol 2, p 35
- ²⁸ Final Report of the Mining Regulations Commission, vol 2, p46
- ²⁹ Final Report of the Mining Regulations Commission, vol 2, p47
- ³⁰ Report of the Miners Phthisis Committee 1902/1903, quoted by Katz, *The White Death*, p129
- ³¹ Final Report of the Mining Regulations Commission, vol 2, p29
- ³² Final Report of the Mining Regulations Commission, vol 2, p32
- ³³ Final Report of the Mining Regulations Commission, vol 2, p23
- ³⁴ Final Report of the Mining Regulations Commission, vol 2, p47
- ³⁵ *Miners' Companion*, preface
- ³⁶ Powell, *Pioneer Journals*, p204
- ³⁷ Powell, *Pioneer Journals*, p204
- ³⁸ Powell, *Pioneer Journals*, p207
- ³⁹ Powell, *Pioneer Journals*, p209
- ⁴⁰ Powell, *Pioneer Journals*, p 206
- ⁴¹ Van Onselen, *Studies in the Social and Economic History of the Witwatersrand*,
- ⁴² The Star, August 5, 1897, quoted by Kennedy, *A Tale of Two Mining Cities*, pp38-39
- ⁴³ Kennedy, *A Tale of Two Mining Cities*, p44

CHAPTER SIX – GOLD 3

- ¹ Real name Paul Blouet
- ² Quoted by Rosenthal, *Gold! Gold! Gold!*, p219
- ³ Standard & Diggers' News, January 29, 1897, as quoted by Cohen, *People who have Stolen from Me*, p62
- ⁴ Leyds, *A History of Johannesburg*, p277
- ⁵ Leyds, *A History of Johannesburg*, p277
- ⁶ Katz, *The White Death*, p78
- ⁷ Norwich, *A Johannesburg Album*
- ⁸ Jacobsson, *Fifty Golden Years*, pp171-172
- ⁹ Jacobsson, *Fifty Golden Years*, p172
- ¹⁰ Adlam, *Pioneer Journals*, pp46-47. Wilhelm Street was changed to King George Street in World War I.
- ¹¹ Adlam, *Pioneer Journals*, p47-48
- ¹² Norwich, *A Johannesburg Album*, p140
- ¹³ Adlam, *Pioneer Journals*, p48
- ¹⁴ Adlam, *Pioneer Journals*, p79
- ¹⁵ Adlam, *Pioneer Journals*, p50-51
- ¹⁶ Adlam, *Pioneer Journals*, p57

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- ¹⁷ Cape Times headline October 2, 2012, “Anglo American faces miners’ silicosis ‘test case’ in 2013”.
- ¹⁸ Business Report, September 26, 2013
- ¹⁹ Business Report July 26, 2013, p1
- ²⁰ Business Report, October 5, 2012
- ²¹ Katz, *The White Death*, p65. Much of my understanding of phthisis on the Rand comes from this book.
- ²² Frederick H Hatch and J A Chalmers, *The Gold Mines of the Rand*, p253, quoted by Katz, *The White Death*, p66
- ²³ Katz, *The White Death*, pp202-204
- ²⁴ The Transvaal Leader, August 29, 1910, quoted by Katz, *The White Death*, p3
- ²⁵ Katz, *The White Death*, p5
- ²⁶ McCulloch, *South Africa’s Gold Mines*, pp35-36
- ²⁷ Jacobsson, *Fifty Golden Years of the Rand*, p118
- ²⁸ Katz, *The White Death*
- ²⁹ Katz, *The White Death*, p3
- ³⁰ Katz, *The White Death*, p18
- ³¹ Katz, *The White Death*, p140
- ³² Katz, *The White Death*, p48
- ³³ Dr Noman Pern, Miners’ Phthisis: its Compulsory Prevention by means of Dust Allayers, South African Mines, Commerce and Industries, December 10, 1904 pp874-875, quoted by Katz, *The White Death*, p141
- ³⁴ Katz, *The White Death*, p145
- ³⁵ Katz, *The White Death*, p25
- ³⁶ Katz, *The White Death*, p48
- ³⁷ Katz, *The White Death*, p105
- ³⁸ British physician Sir Thomas Oliver, Gold Miners’ Phthisis and some of the Dangers to Health Incidental to Gold Mining in the Transvaal, Lancet June 14, 1904, p762, quoted by Katz, *The White Death*, p110
- ³⁹ Quoted by Katz, *The White Death*, p178
- ⁴⁰ Fraser D Spence and Irvine L G, Statistical Account of the Incidence and Progression of Silicosis amongst the Gold Miners of the Witwatersrand, conference paper no 17, International Silicosis Conference, Johannesburg, 1930, quoted by Katz, *The White Death*, p120
- ⁴¹ Katz, *The White Death*, p157
- ⁴² Katz, *The White Death*, p210
- ⁴³ Quoted by Katz, *The White Death*, p211
- ⁴⁴ Louis Irvine, quoted in the Final Report of the Mining Regulations Commission, vol 2, p247
- ⁴⁵ Katz, *The White Death*, p198
- ⁴⁶ McCulloch, *South Africa’s Gold Mines*, p72
- ⁴⁷ Katz, *The White Death*, p181
- ⁴⁸ Brian Rostron, The Cape Times, June 6, 2013

CHAPTER SEVEN – WAR

- ¹ Alfred Milner, letter to Sir Percy Fitzpatrick November 28, 1899, quoted by Pakenham, *The Boer War*, pp118-119
- ² Smurthwaite, *The Boer War 1899-1902*, p25
- ³ Cammack, *The Rand at War*
- ⁴ Cammack, *The Rand at War*, p22
- ⁵ Standard & Diggers’ News, quoted by Cammack, *The Rand at War*, p22
- ⁶ Pakenham, *The Boer War*, p51
- ⁷ Cammack, *The Rand at War*, p18
- ⁸ Cammack, *The Rand at War*, p23
- ⁹ Cammack, *The Rand at War*, p21
- ¹⁰ Pakenham, *The Boer War*, p53
- ¹¹ Cammack, *The Rand at War*, p21
- ¹² Smurthwaite, *The Boer War 1899-1902*, p26
- ¹³ Adlam, *Pioneer Journals*, pp82-83
- ¹⁴ Pakenham, *The Boer War*, p67
- ¹⁵ Cammack, *The Rand at War*, p41
- ¹⁶ Pakenham, *The Boer War*, p114
- ¹⁷ Lipp, *My Diary*, p2
- ¹⁸ Lipp, *My Diary*, p5
- ¹⁹ Pakenham, *The Boer War*, p84

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- ²⁰ Lipp, *My Diary*, pp2-3
²¹ Leyds, *A History of Johannesburg*, p136
²² Leyds, *A History of Johannesburg*, p136
²³ Lipp, *My Diary*, pp1-2
²⁴ Lipp, *My Diary*, pp 4-5
²⁵ Leyds, *A History of Johannesburg*, p135
²⁶ Cammack, *The Rand at War*, p85
²⁷ Cammack, *The Rand at War*, pp85-90
²⁸ Cammack, *The Rand at War*, p135
²⁹ Milner in a letter to Violet Cecil, quoted by Cammack, *The Rand at War*, p166
³⁰ Walter White, quoted by Cammack, *The Rand at War*, p124
³¹ Refugee in a letter to the Cape Times, July 22 1901, quoted by Cammack, *The Rand at War*, p168
³² Cammack, *The Rand at War*, p173
³³ Richard Adlam, letter to his wife Grace, quoted by Thomas Adlam, *Pioneer Journals*, pp93-94

CHAPTER EIGHT – MPONENG

- ¹ First quarter production costs for 2012 were \$586 an ounce, excluding capital costs. Briefing attended by author.
- ² According to Gold Reef City, June 2012
- ³ Cape Times, July 2, 2012
- ⁴ Labour lawyer Michael Bagraim, The Cape Times June 26, 2013, p9; and David Stringer, Business Report, June 27 2013, p1
- ⁵ Business Report June 27, 2013 p1
- ⁶ Dr K Kennington & Dr P McKenna, Government Laboratory. Department of Food and Agriculture, Manx Marine Environmental Assessment report, Chapter 2.4 Physical Environment; Chapter 2 September 2012, pp 11-13
- ⁷ Paul L Younger, The Mine Water Pollution Threat to Water Sources and its remediation in Practice, paper, p17
- ⁸ Terence S McCarthy, The Impact of Acid mine drainage in South Africa, South African Journal of Science, May-June 2011, p1
- ⁹ Klukas, *Leadville*, p3